

THE OMAHA EXPOSITION AND THE INDIAN CONGRESS.

The Exposition at Omaha is a rare creation and is an unqualified success from every point of view. If one were to be asked what was the most interesting and beautiful feature of the Exposition, he would undoubtedly reply, "The electrical display at night." The lighting of the Exposition is a great advance over that of the World's Fair, and it is a significant fact that France has sent over experts to view the systems of lighting which have been adopted on the Grand Court at Omaha. One of our engravings represents the fireworks display on the grand plaza. It is doubtful if a more artistic display could be devised than that shown in our engraving. It is only another proof of the great success which pyrotechnic art has attained in America. Our other engraving represents a group of five Indian chiefs.



Photograph by F. A. Rinehart.

FIREWORKS, GRAND PLAZA, TRANSMISSISSIPPI EXPOSITION.

The attractiveness of the Exposition has been enhanced by the addition of a new feature. This is the Indian Congress, which is organized with a view to assembling the representatives of every tribe of Indians on this continent, and that idea inspired the Indian Bureau at Washington to avail itself of this rare chance to present an ethnological exhibit never before attempted, and it is not likely that such a representative collection of Indians can ever be gathered again. Con-

gress really meant, and are satisfied and happy. The agents were instructed to send old men, and, as far as possible, "head men," who would typically represent the old-time Indian, subdued, it is true, but otherwise uninfluenced by the government system of civilization. These instructions were faithfully followed, and as a result the Indian congress is composed of hundreds of the best types of the various tribes. All of the tribes that are of any interest from an abor-

iginal standpoint are represented at the congress. Some of them have become so civilized, like the Creeks, Choctaws, Cherokees, and Seminoles, that their presence would add little interest from an ethnological point of view; so the government did not assemble its most civilized proteges at Omaha, but the tribes it has conquered with the greatest amount of bloodshed are the most important at the congress.

When the congress was formally opened on August 4 thirty-five tribes were encamped on the grounds, aggregating about five hundred Indians. The northwest corner of the extensive Exposition grounds were given up exclusively to the big Indian camp. There they are living in primitive style, housed in tepees of tent cloth or birch bark or rush mat wickiups. In some cases the tepees are made of buffalo skins.

The object of the congress is to truly represent the different Indian tribes and their primitive modes

of living; to reproduce their old dances and games; show their manner of dress; illustrate their superstitions, and to recall, as far as possible, their almost forgotten traditions. They also have an opportunity to prove their skill in embroidery, basket weaving, and, most important of all, the congress affords an opportunity of comparing the various Indian tribes, to study their characteristics and tribal traits. When told, before coming to the congress, that they would meet other



Four Balls, Assinboin.

Antoine Moise, Flathead.

Different Cloud, Assinboin.

"Kills the Spotted Horse," Assinboin.

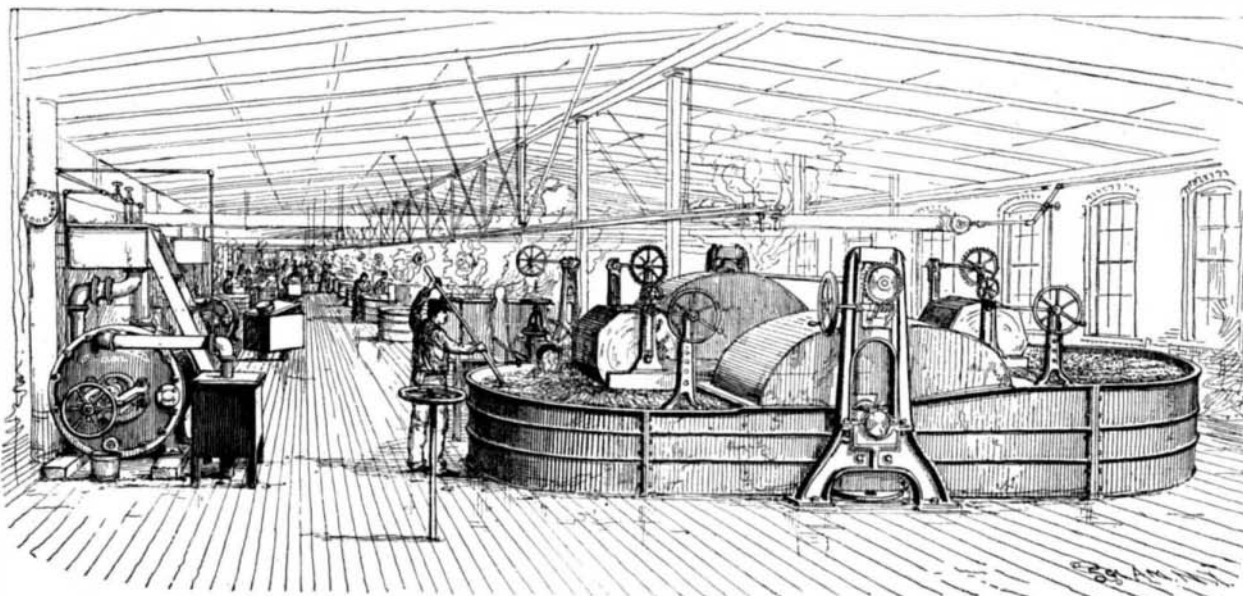
Eneas Michel, Flathead.

REPRESENTATIVE INDIAN CHIEFS, INDIAN CONGRESS, OMAHA EXPOSITION.

Indians, their chief fear was that it would be necessary to renew the old tribal feuds, but, once on the ground, this idea was soon dispelled, and it is now amusing to see with what formality the tribes exchange civilities. For instance, when the Sioux Indians pay a call to the Arapahoes, the visitors dress with great care and march singing to the Arapahoe village. The Arapahoes met them with a song of welcome, and a formal handshaking follows with an exchange of gifts, and peace is declared between the two tribes. Of course, in most cases the Indians are not able to communicate with each other except through the aid of an interpreter, as their languages are different.

Our engraving shows a group of representative Indians of two of the most interesting tribes, the "Flatheads" and the "Assiniboin." The Assiniboin are considered particularly good Indians, and cause little disturbance. They boast that they never fought white men, but with the Cheyennes, Crows, Black Feet, and Nanktons. "Different Cloud," "Kills the Spotted Horse," and "Four Bulls" are three famous chieftains of the Assiniboin tribe. All three were born at the Fort Peck Agency, Montana, and have lived there all their lives. "Different Cloud," also known by the name of James Garfield, is thirty-two years of age, and in the famous battle waged between Gen. Miles and Sitting Bull, on Milk River, he did good work for the government, his horse being shot under him. In the course of the fight he scalped six of the Sioux and captured twenty-five horses. "Four Bulls" is also known by the name of James Robert. His career has been a comparatively peaceful one, having only been in one fight against the Crows. He is twenty-nine years of age and speaks English. "Kills the Spotted Horse," whose English name is Allen Clancy, is thirty-three years of age. Five years ago he took part in a fight with the Creeks, and his horse was shot under him and he received two wounds which resulted in his being laid up for three months. When he got well he started out with a party of friends to seek revenge. They stole sixty-five horses from the Creeks and returned home to the agency with this booty. They were promptly arrested for fighting and

placed in the guardhouse. The spirit of their forefathers evidently dwelt with them, for they agreed to die by each other's hands. By some means they procured a pair of scissors, with which they stabbed each other. When the jailer arrived, all were dead but "Kills the Spotted Horse," who afterward recovered in the hospital. He is about as striking a type of Indian as any at the Exposition. Antoine Moise and Eneas Michel are from the Flathead agency in Montana. Antoine Moise, though only a little over thirty years of age, has had a very event-



BEATING AND REFINING ENGINES.

ful career. Eight years ago he was wounded in battle between the Flatheads and Crow Indians, and the Crow Indian who shot him is on the Indian encampment grounds at Omaha. The other event in his life was his trip to Washington in 1893 to see the "Great Father." Eneas Michel is twenty-four years of age and has lived all his life on the agency. He speaks English very well and does not call for any special mention. The scene, particularly at night, is intensely picturesque. Small cooking fires scattered around dimly light up the strange picture, throwing a red glow upon the decorated tepees, while across the trails prance the stalwart braves lavishly decked out with blankets. It is a curious and interesting fact that less than half a century ago the same docile Omaha Indians who peacefully doze by the camp fires within the Exposition gates were waging the war of the tomahawk and arrow on these very grounds, which is a gratifying proof of the triumphal march of civilization.

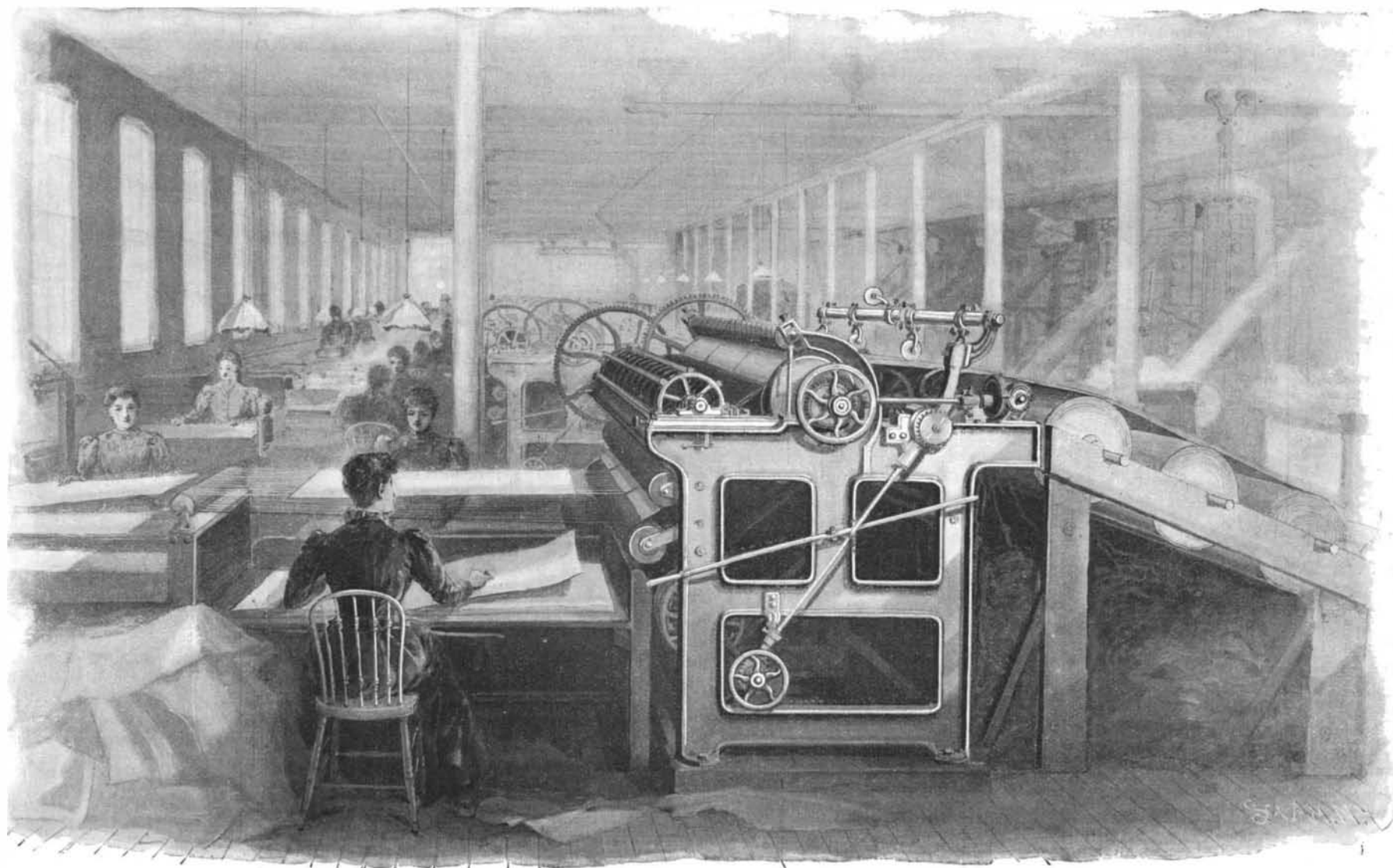
THE MANUFACTURE OF PAPER.

III.—THE PAPER MILL.

In our issues of March 19 and April 30, of this year, we described at considerable length and with the aid of numerous illustrations the processes by which the spruce and poplar logs are manufactured into sulphite and soda fibers. It was shown how the logs are cut into "chips," the length of whose fiber is from one-half to three-quarters of an inch; treated with chemical solutions in huge "digesters," where the "cooking" serves to dissolve out the soluble, incrustating matter of the wood—resin, lignose, cellular matter—leaving only the pure fiber; then washed and screened, and finally bleached, leaving a pure, white, vegetable fiber ready for manufacture into paper in the paper mill proper.

Before describing the final processes, it will be well to mention that there are, broadly speaking, at least six different grades of paper, recognized by the manufacturers.

1. The lowest and cheapest of these is *wrapping paper*, such as is used for large parcels and packages. This is made from the screenings and refuse from the different mills.
2. *Cheap or "bogus" manila*, made chiefly from ground wood and sulphite fiber, and used for cheap bags, such as are used in retail stores.
3. *Best grade manila*, made from jute and old rope, used for flour sacks and cartridge paper.
4. *News papers and hanging papers*, manufactured from ground wood and sulphite pulp. This grade is practically the same as No. 2, with the difference that the cheap manila is colored. The wood pulp not being chemically treated, the resinous and acid matter remains in the pulp, and in course of time discolors the paper. It is for this reason that old newspapers become discolored and fade to a yellowish tint.
5. *Book paper*, such as that upon which the SCIENTIFIC AMERICAN is printed, made from bleached sulphite and bleached soda fiber, mixed.
6. *Fine writing papers*, such as note, bond, bank note, tracing, and bank folio paper. This is made from a mixture of rag and wood fibers, and the finest



THE MANUFACTURE OF PAPER—MACHINE FOR CUTTING THE FINISHED PAPER TO SIZE.