

INDIAN GRASS OR WOOD GRASS.

Our engraving shows a grass which will be recognized by many of our readers who hail from the prairie States, where it figures quite largely in the native pasture. Botanically, it is a sorghum (*Sorghum nutans*), and it is tall-growing in its habit, the stalks being from three to four ft. high, in favorable locations.

In order to show how grasses may vary in chemical composition and thus differ widely in economic value, we place side by side the proximate analysis of *Sorghum nutans* and *Sorghum Halapense* (green valley grass):

	<i>Sorghum Nutans.</i>	<i>Sorghum Halapense.</i>
Oil.....	1.67	2.25
Wax.....	.10	.61
Sugars.....	7.27	7.37
Gum, etc.....	3.75	5.14
Cellulose.....	36.79	25.15
Ameyaceous m.....	27.25	25.87
Alkali extract.....	14.44	15.58
Albuminoids.....	3.29	12.18
Ash.....	5.03	4.85

The analyses were made by Dr Peter Collier, chemist of the United States Department of Agriculture. The superior richness of the *S. Halapense* in oil, sugars and its notable increase of albuminoids, are plain evidence of its great comparative value. It has more gum also, which there is some reason to believe is convertible into sugar in the animal digestion. On the other hand the *Sorghum Halapense* has much less cellulose, which is indigestible and worthless. We gave an engraving of *Sorghum Halapense* in our issue of March 27, 1880, and it is interesting to compare their appearance in connection with this statement of their comparative composition.

*Sorghum nutans* has not been generally considered of much value except as one of the grasses in the native pasture, although if cut early the hay is nutritious. The main trouble with it is that it grows rather scantily and does not cover the ground well.

The stalks are smooth, hollow and straight, and have at the top a narrow panicle of handsome straw-colored or brownish flowers, which are rather drooping when the seed is formed.

THE PROMOTION OF AGRICULTURE.—We learn from data sent us from the East that there has been organized an association whose object shall be "the promotion of agriculture by fostering investigation in science applied to agriculture." For the accomplishment of this object the members shall meet annually for the presentation and discussion of original papers on subjects embraced within the scope of this field of inquiry, and for the consideration of plans for creative. Papers may be offered at the meetings through members by non-members, for reading and discussion, and for the indorsement of the association; and the association shall endeavor especially in this manner to encourage, as far as lies within its power, all exact investigation leading to advancement in agriculture. Membership is to be limited to a small number, say 40 or 50. New members are to be appointed by the association itself on such conditions as may be agreed upon hereafter. The papers read are to be published, under such conditions as may be devised by the association. We are acquainted with many of those named as members, and, from their standing as original investigators, we expect many valuable results will be attained by their labors. The Secretary is Dr. E. L. Sturtevant, at Wanshokum Farm, South Framingham, Mass.—a thorough student, with a fine record of achievements.

HARDENING GLUE.—The only thing that will render glue perfectly insoluble is bichromate of potash. If you add a little of this in solution to the glue, and after applying the glue to the article expose it to the sunlight, it will become insoluble even in hot water. Better expose for a good while, say an hour or so, to make sure that all the glue has become insoluble.—*Boston Journal of Commerce.*

TERRESTRIAL MAGNETISM.—Prof. Balfour Stewart, in a letter to *Nature*, July 1, 1880, discusses the connection between auroras and magnetic storms. Since we have changes produced in stationary strata by a moving magnet, cannot the reverse be true? May we not have discharges produced in moving strata by a sta-

logical changes would do," and he also states that his observations up to the present appear to show that an increase or decrease of solar activity corresponds to an increase or decrease of both magnetic and meteorological activity. The probability of a progress of magnetic phenomena from west to east, corresponding in character to a progress of meteorological phe-



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tionary magnet? The sun in this case would by convection currents produce changes in the atmospheric strata, and the earth as a permanent magnet would cause electric disturbances, which in turn would react upon terrestrial magnetism. Working upon this hypothesis Balfour Stewart has been led to the fact "that certain magnetic diurnal changes lag behind corresponding solar changes, just as meteo-

nomens is alluded to. Magnetic weather appears to travel faster, however, than meteorological weather.

WHAT CAME OF JUMPING THE ROPE.—Dr. Peck, of Indianapolis, has amputated the legs of a young girl on account of decay in the bones, produced by excessive rope-jumping. He advises parents and teachers to prohibit this play under all circumstances.