

age of this depression. It shows that since man came there there has been a depression of 750 feet at Trebizond, and in southern Turkestan the waters were over 2,000 feet deep. The implements found were such as those made in North America before the glacial period, which gives good ground for believing that the depression was made there when the glacial avalanche occurred here. In short, it was practically the Flood."

Prof. Wright made some interesting investigations on the Red Sea. He states that it has hitherto been supposed that the Children of Israel crossed the Red Sea at Suez, but it has been found difficult to reconcile this supposition with the fact that a million persons crossed the sea in a single night, which would necessitate a very wide division of the waters. His explorations north of Suez have convinced him and those to whom he talked that the point of crossing was twenty miles north of Suez, because at that point the conditions are all fulfilled. The waters at that time were about four feet in depth there, and the mountains are in the west, just as related, and an east wind would have swept bare a place at least five miles wide.

HOFMAN'S FLYING MACHINE.

Following hard upon the heels of the Viennese engineer, Wilhelm Kress, whose aeroplane has been illustrated and described in the SCIENTIFIC AMERICAN, comes a Berlin inventor, Regierungsrath J. Hofman, who has constructed what is claimed to be a working model of a flying-machine. Kress, for lack of funds, was severely hampered in building his device. Unable to purchase a motor—an obstacle which, we are glad to note, has been overcome with the assistance of the Emperor of Austria—Kress could test his contrivance only on water. Hofman, on the other hand, did not immediately proceed with the building of a full-sized machine, but has first constructed a model on a scale of 1 to 10.

To start and to land are the most difficult feats in operating a flying-machine. For this reason ingenious inventors, among them Prof. Langley, have erected special frames from which they start their machines in order to secure sufficient living force, the machines themselves being merely of sufficient strength to meet the requirements of the speed to be attained. Hofman's machine differs materially from the contrivances of these inventors, in so far as he uses no particular launching-frame or other construction. He employs legs which are provided with wheels at their lower ends, and which are normally in the position shown in Fig. 2, but which are suddenly drawn from the ground close to the body when the propellers are set in motion. Robbed of its support, the machine falls, driven forward by its propellers. But the machine drops barely a second; beneath the wings, projecting far out from each side, sufficient air has collected to sustain the entire apparatus. New masses of air continually collect beneath the wings, so that, it is claimed, the buoyant force of the air becomes so great that the machine is not only supported in its flight, but is even driven further upward, there to be maintained at the desired height by the action of its propellers.

The little steam-engine used to drive the propellers is supplied with steam at a pressure of 165 pounds by a boiler composed of 72 water-tubes. The engine itself is made of steel. For a full-sized flying-machine, Hofman intends to use coal as fuel, although the firing of the boiler with petroleum has also been contemplated.

The wing or sail surfaces have an area of over 21 feet, and project laterally to a distance of 4.66 feet. The entire weight of the little model is 7.7 pounds.

The Scientific Alliance of New York city is now actively engaged in raising funds for a building to be devoted to the scientific societies of New York. It is desired to obtain \$500,000.

The White Rhinoceros.

A few individuals of the white rhinoceros, *Rhinoceros simus*, are to be found in Natal and Zululand, but their number is very small; it is supposed that not more than twenty of these animals exist in the world. Not long ago a band of five individuals was seen by a

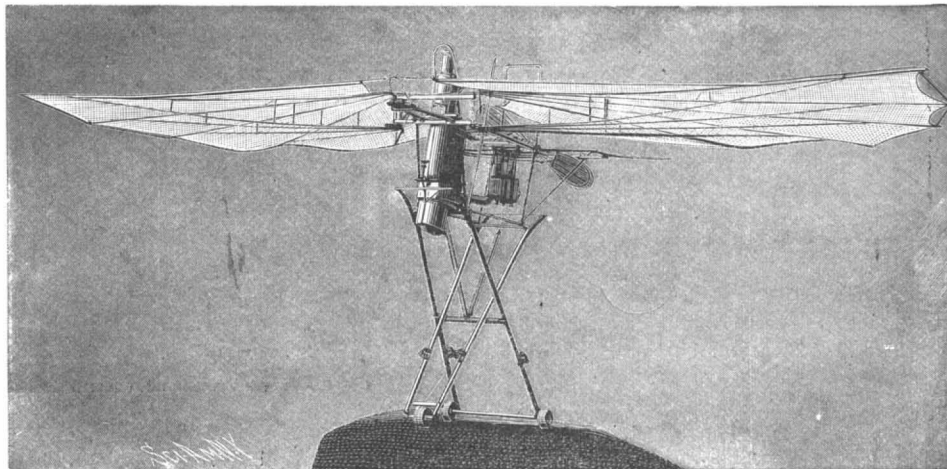


Fig. 2.—READY TO START.

party among whom was the Governor of Natal. This was in one of the regions set apart as a game preserve, near the junction of the White and Black Umfolzi. The governor and a local functionary were told that a band of these animals was to be seen; both proceeded in the direction indicated, on horseback, and soon came in sight of the band. The animals were moving slowly toward a clump of bushes and allowed themselves to be approached, not seeming at all shy; the horsemen came within 150 feet of the

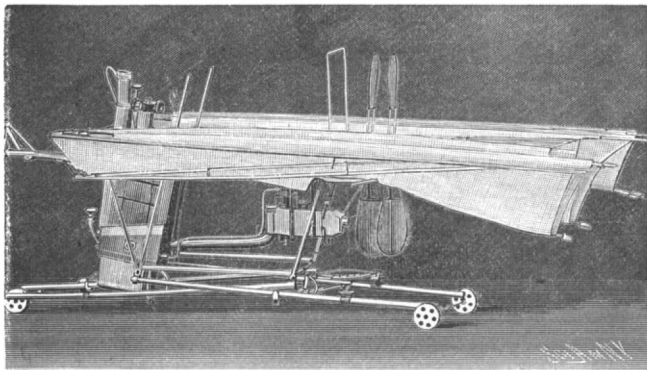


Fig. 1.—POSITION OF THE WINGS WHEN FOLDED.

enormous animals, who were occupied in feeding upon the grass of the plain, near some scattered trees. As they did not seem to be alarmed, the two men dismounted and approached on foot, stopping at a distance of only 60 feet from the group. They were thus enabled to observe the animals very closely for more than a minute; the latter did not seem to pay any attention to them, but kept on grazing. Soon, however, they commenced to sniff the air and became unquiet, but without apparently seeing their visitors,

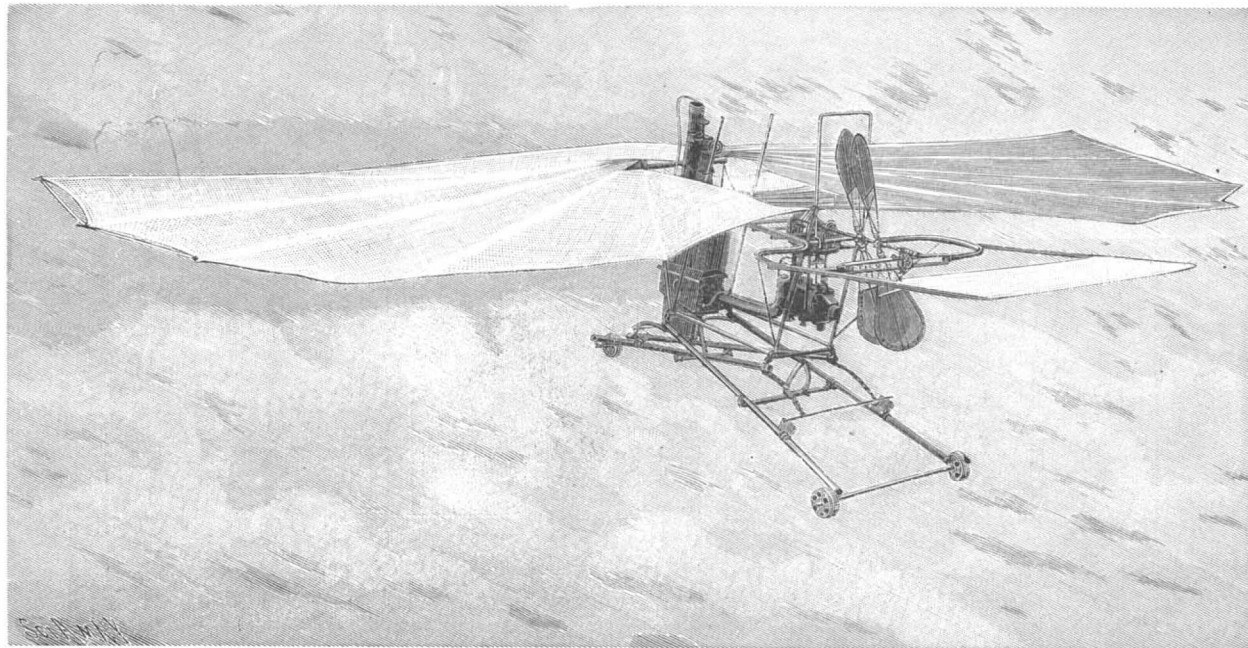


Fig. 3.—THE HOFMAN FLYING-MACHINE IN FLIGHT.

who were not at all concealed, and then commenced to move off slowly, first walking, then at a trot. It is a rare circumstance to see and to observe these animals for any length of time at such close quarters. The group was composed of four adults, among whom was a powerful male, and an individual of three-quarters growth. On the same day were seen a group of three others of the same species, and these include

nearly all the animals of this species remaining in the region, within one or two; it is supposed that the number is not more than ten in all. It is thought that a few specimens exist also in the chain of Ubombo, but this appears doubtful, these being rather the *R. bicornis*. The white rhinoceros is protected as strictly as possible, and it is forbidden to hunt them under a penalty of \$250 to \$500, or imprisonment; the governor himself cannot give permission to kill them. It seems likely that the species will before long become extinct.

The Quagga.

The Zoologist contains an interesting account of the quagga and its disappearance, by Mr. Graham Renshaw. The quagga is now entirely exterminated, owing to its wholesale destruction by the hunters and colonists in South Africa. The blaubok has long since disappeared, and the blesbok nearly so; among other animals which are fast disappearing are the gnu, the white rhinoceros, the southern giraffe and the quagga. The latter was in former times very abundant at the Cape and in Orange Free State, and it

wandered in these regions in herds of considerable size; at present, however, not a single one is found. This animal had almost the form of a horse, as regards the mane, tail, hoofs and general proportions. Its color was red-brown, passing to a tan color at the rear, then to white on the legs, tail and abdomen. The head was striped like that of a zebra, and the neck had large stripes of dark brown and white. The quagga when captured young was easily domesticated, and it could be crossed with the horse. It could be hitched to a vehicle, and in the first half of the century some of these animals have been seen drawing carriages in Hyde Park. The species has disappeared in the course of the present century; a hundred years ago it was still very abundant, although in 1820 it had already abandoned the district of Albany at the Cape. W. C. Harris, in 1836, explored the South African region and found the quagga in abundance in the plains to the south of the Vaal; to the north it was replaced by the zebra. The different quadrupeds were quite numerous, including, besides the quagga, the gnu, the blesbok, and others. It is especially after 1850 that the quagga began to diminish in number. The Boer hunters commenced to make their appearance and killed the quagga for its hide; there was no restriction laid upon the hunting of this animal, and after a number of years it began to be killed off; in 1865 it had disappeared from the Cape, and a few years later from Orange Free State. At the present time it has entirely disappeared and it is only in a few museums that stuffed specimens are to be seen.

Among the museums possessing skins or skeletons may be mentioned those of London, Edinburgh, Philadelphia, Paris, Amsterdam, Berne, Vienna, etc., the total being twelve or fifteen skeletons and skins. This is all that remains to represent a species which was once counted by thousands.

Compromise of an Important Patent Suit.

Suits for infringement of patents instituted more than five years ago by the American Nickel Steel Company, of Philadelphia, against the Carnegie Steel Company and the United States government were compromised at Washington on April 23. The amount paid by the defendants is not known. It is said that the sum paid amounted to about 5 cents a pound for armor plate in which nickel steel was used. It is also said that suits will now be brought against other manufacturers who use nickel steel in any form. The

American Nickel Steel Company grants to the government and the Carnegie Steel Company a license to use the patents of that company in all nickel armor plate manufactured by them.

There are about forty steamers whose sole work is the laying and maintenance of the telegraph cables of the world.