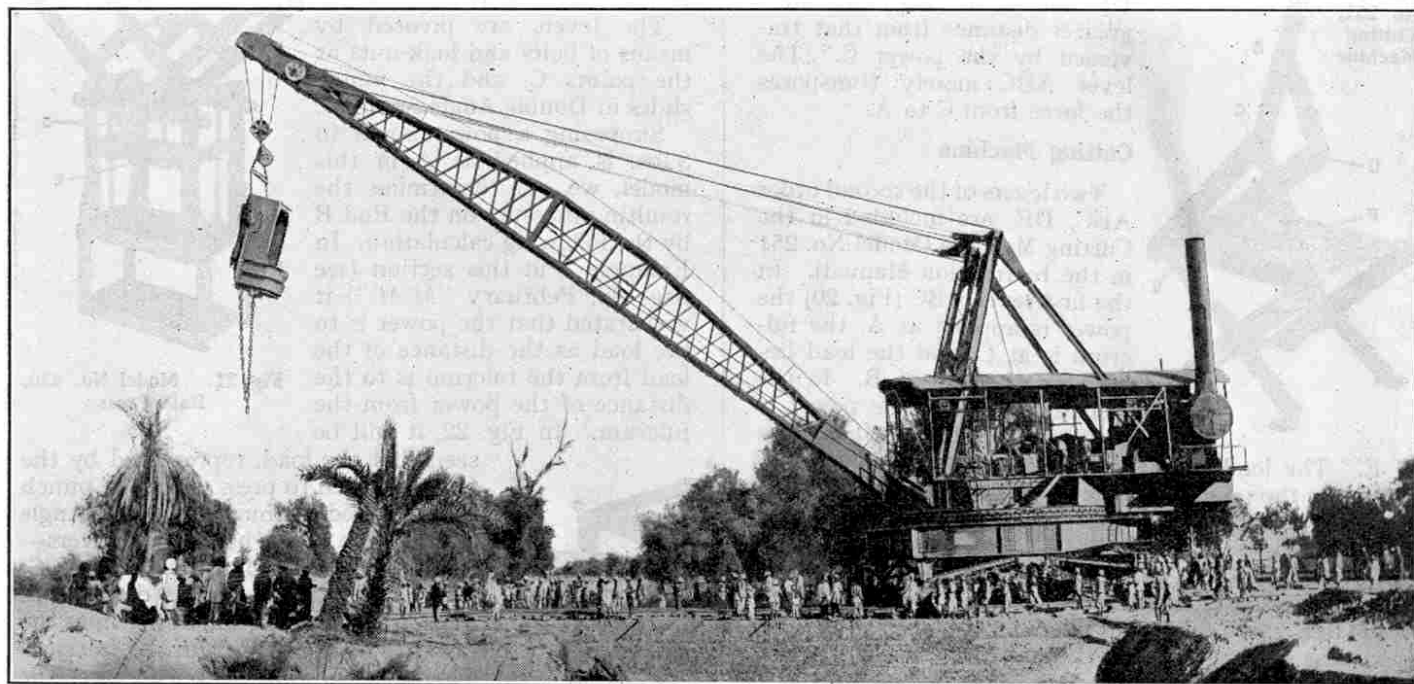


A Triumph for British Engineers

Giant Draglines at Work in India on Huge Irrigation Schemes



A 350-ton Dragline arouses the curiosity of the natives

IN our issues of March and April 1924 we gave some details about the heaviest dragline in the world, then in course of construction by Messrs. Ruston & Hornsby Ltd., of Lincoln. The colossal dimensions of this giant excavator were amazing but only as huge a machine as this could be expected to perform the work required, it being intended for use in one of the largest engineering schemes that the world has ever known.

Our readers will remember that at the same time, we arranged a special model-building competition for the best Meccano model of the Dragline. From the number of entries received it was evident that the subject is one of considerable interest and we feel sure that our readers will be further interested to have news of the behaviour of this great dragline in India. We are now also able to give some particulars of the great work on which this huge machine and nine sister machines are engaged, and on which they are acquitting themselves with no little credit.

Dragline and Steam-Navvy Compared

A dragline, which is really a development of the steam-navvy or steam shovel, obtains its name from the fact that the bucket is dragged towards the machine on a flexible rope. It is in this respect that a dragline differs from a steam-navvy in which the bucket is

mounted on an arm that pivots on a jib.

A dragline works in an opposite manner to a steam-navvy in that it excavates *below* the level on which it stands, works *towards* itself, and travels *backwards* when it has excavated all the material within reach.

Apart from these four points of difference a dragline follows closely the construction of a steam-navvy — indeed, this latter machine can be converted into a dragline if necessary by fitting a different jib and a special bucket and by

adding another winding drum to the machinery.

A dragline has two drums, one for winding the digging-rope and the other for lifting the bucket out of the excavation, regulating the depth of the cut and allowing the bucket to swing back for discharging and for another cut. The digging-rope passes in front of the machine close to the foot of the jib, and is attached to the bucket, the weight of which, together with that of its load, is taken by a hoisting rope that runs over the head of the jib.

The jib is of lattice-girder design and although comparatively light in weight, is of extremely strong construction. The jib, with the whole of the machinery, rotates on a platform mounted on roller bearings, the whole machine moving backwards or forwards on rails. A derricking gear, giving variations in the angle of the jib of from 25° to 40° from the horizontal, enables

Excavators weighing 350 tons, with huge parts weighing 19 tons, doing the work of 8,000 coolies and excavating hundreds of miles of canals in irrigation schemes for the reclamation of millions of acres of barren desert makes us almost imagine we are living in the land of the Brobdingnags—the giants made famous by Swift in his "Gulliver's Travels." Yet these figures are no figment of the imagination and the huge machines, fully described in this article, are at work in India to-day on the greatest irrigation scheme the world has yet seen.