

CALIFORNIAN OIL FIELDS · SMALL SECTION OF PLANT, LOS ANGELES.

[Photo lent by Mr. James Gilbert, Wellington.]

Well-Boring.

OSBORNE'S BORING AND WELL-SINKING PLANT.

THE boring operations, which have been carried on with such perseverance in Taranaki, having apparently resulted in success, it is certain that a large number of exploratory bores will be put down in various parts of the colony where surface indications point to the presence of deposits of petroleum. In this connection many of our readers will be interested in the description of a boring and well-sinking plant which has been working in various parts of New Zealand for several years past with very great success. The plant shown in our illustration is one of several owned by Mr. Job Osborne of Doyleston who was the original inventor and patentee. We understand that considerably over a quarter of a million feet of boring has been accomplished by Mr. Osborne's apparatus at a comparatively small expenditure of time and labour. Our first illustration is from a photograph taken last month in Christchurch, where a deep well is being sunk, and shows clearly those parts of the apparatus which are the subject matter of Osborne's patent, and which differ from others in ordinary use. The machine is double acting, inasmuch that it can be used to drive the well pipes, and at the same time to work a drill inside of the well pipes, so that the drill proceeds and makes a way for the pipe through the ground.

Referring to figure 2, the spindle, 1, has the discs 2 and 3, fixed upon it one at each end outside of the necessary bearing. These discs have projections from their faces, one of which, 5, can be seen in the illustration. The projection from one of the discs is placed at an angle of 90 degrees, or exactly opposite to the projection on the other disc. The spindle, 1, projects through the discs, and upon each end are mounted the levers, 6 and 7, respectively, which are free upon the spindle but are prevented from coming off by collars, 17. As the discs are revolved by a tooth wheel, 8, upon the spindle which is driven from the pinion, 9, upon the counter shaft, 10, which in its turn is revolved by an oil engine or other power through the medium of a pulley, 11, and belt, 12, the projections engage in the levers and carry them round for half a revolution when each lever leaves its projection, one under weight of the monkey, and the other under the weight of the boring rods which are connected to the levers through the medium of the ropes, 13, and connecting rods, 14. A pump, 15, is worked by the sprocket chain, 16, from the counter shaft, and is used to force water down through the hollow boring rods to which the drill is attached to soften the ground and enable the pipes to be more easily driven, the return flow from the top of the pipes bringing the loose material from the bore to the surface. The projections from the discs being opposite to each other, the actions of boring and driving are performed one after the other. The advantage derived from this dual action of drilling and pipe-driving is that considerable saving of time is effected, as it is not necessary, as is the case with ordinary boring machines, to stop the machine and to disconnect the pipe-driving apparatus, to substitute the drilling gear, or to raise the boring rods when it is desired to drive pipes. Another advantage is that the bottom of the pipe being kept closed to drill, there is no liability of the ground caving in and filling the hole. By an ingenious arrangement of rope drums and sheaves, the action of which will be readily gathered from the illustrations, the length of the boring and driving ropes can be adjusted in a few moments as the drilling and pipe driving proceed. This arrangement is in itself a great saving of time. The first term of Mr. Osborne's patent expired a short time ago, but upon his

petition it was considered by the Supreme Court that his invention merited an extension of the term of protection, so that there are yet several years to run before the patent rights expire.

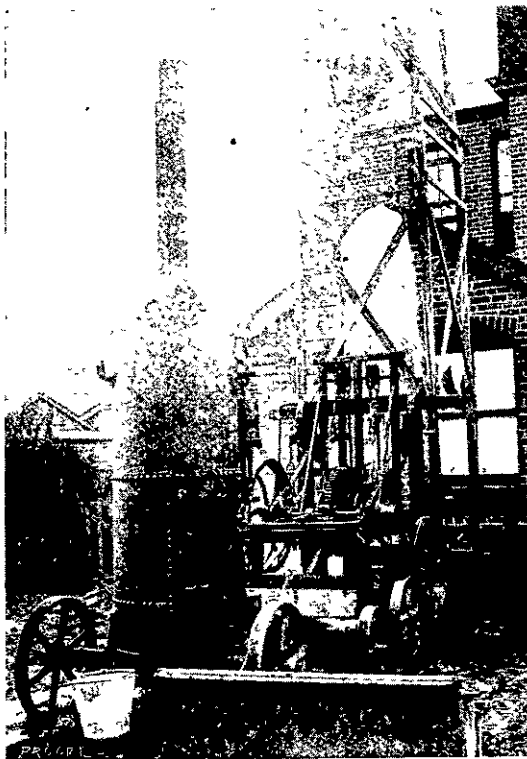


FIG. 1—OSBORNE'S BORING AND WELL-SINKING PLANT.

The directors of the London General Omnibus Company, Limited, will shortly make a further capital issue in the form of 5 per cent. cumulative preference shares, in order to increase their stock of motor omnibuses. The London Road Car Company, Limited took this step early in January of last year, which places it so much ahead.

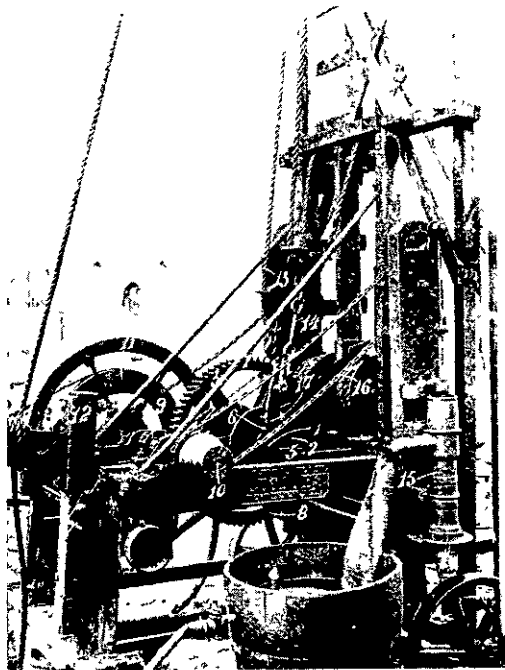


FIG. 2—OSBORNE'S BORING AND WELL-SINKING PLANT.

Technical Education.

THE problem as to the future of advanced students in chemistry and mechanical and electrical engineering was brought forward recently on the occasion of the distribution of prizes at the Birmingham Municipal Technical School. It was asked what manufacturers are prepared to do for the students when they have been well trained in theory and to some extent in practice, and are becoming qualified as expert assistants. Prof. W. A. Tilden, who raised the question in the course of a lengthy address, stated that an American chemical manufacturer had informed him that young men who had learned theoretical, and a certain amount of practical, work received a commencing salary of £120 per annum on being taken into the works, while the pay is £150 yearly in corresponding positions in Germany. The young men, the professor added, are engaged in the first instance to learn the business, and the pay given to them is really a maintenance allowance which enables them to continue learning the business in which they are afterwards to render valuable service. This principle, in the opinion of Dr. Tilden, will have to be recognised in England, and employers are recommended to make it of advantage to assistants to study the works and learn the processes in use with a view to mutual progress and improvement. The question raised by the Professor is certainly a wide one—one which may induce large firms to give the matter more consideration. But at the same time, employers can scarcely be expected to agree at once with the suggestion as to the amount of the initial salary of assistants. The assistants have to feel their way about the works, and considerable time is necessary in order to allow of their becoming familiar with practical work as carried out in industrial works. Surely it is too much to ask manufacturers to pay between fifty and sixty shillings weekly during the period of initiation and prior to ascertaining whether the assistants are likely to be of any practical value. Those who show indications of progress, energy and initiative will be encouraged by employers and advanced, but it would be impossible to lay down a hard-and-fast rule to apply to each individual. We feel sure that employers in general will not be lacking in promoting the interests of tried and proved assistants, but the latter will first of all have to understand the works. The first rung has to be stepped upon before the top of the ladder can be reached in every branch of industry, but everyone cannot expect to attain the summit.

What are the Poor Out-of-Work Men to do?

What are the poor out-of-work men to do? The world is wide, let them look round. The old and alarming doctrines of Malthus are exploded nowadays. There is no fear of the overpopulation of this globe; the crying need of vast continents is for population, for men to wrest from the earth the wealth she holds. The British flag waves over immense tracts of country, which have been wrested by the spilling of British blood, or by the exercise of British energy, from native races or from other European nations, but they lie for the most part derelict, unclaimed, untilled, their wealth untouched, their possibilities unproved. All they want are capable, practical, educated colonists to turn them into lands flowing with milk and honey, and to create prosperous and contented populations. Here is work worthy of the men to do.

There is no virtue in the one-day sprint that requires the six-day snooze.