A NEW OPERATING TABLE FOR HORSES.

To subject a horse to a surgical operation has always been a task which has required the utmost skill and unremitting care of the veterinary surgeon in charge of the case. Of course, the most imperative essential toward the accomplishment of a successful operation is that the patient should be completely under the control of the surgeon, and to attain this end the animal is generally subjected to a dose of some anæsthetic. But even before this can be accomplished the animal must be secured, so that it can offer but slight opposition. Hitherto, the securing of a horse has always been a difficult matter, owing to the animal's strength and unwieldy proportions. The *modus operandi* generally employed to bring a horse to the ground is that known as casting. The animal is led to a position beside a bed of straw. His legs are then hobbled and he is thrown over sideways by sheer physical force. The objections to this process are obvious. The animal is often frightened by the sudden fall, and consequently plunges and kicks to the best of its ability, often severely injuring itself by so doing. Very often, too, bones are broken by the fall.

We present illustrations of a device which enables even the most difficult operations to be performed upon a horse with absolute safety to the animal and with the greatest ease to the surgeon. This device is the invention of Mr. J. A. W. Dollar, the well known veterinary surgeon of New Bond Street, London.

The general design of the operating table can be comprehensively gathered from our illustrations. It mainly consists of a massive iron framework of sufficient dimensions to admit a horse being placed inside. This framework, which weighs about 784 pounds, is suspended upon a central horizontal axis, so that it can be turned round in either direction as required. The two standards upon which this frame rotates are sunk into the earth and surrounded by masses of concrete weighing about five tons, so that absolute rigidity

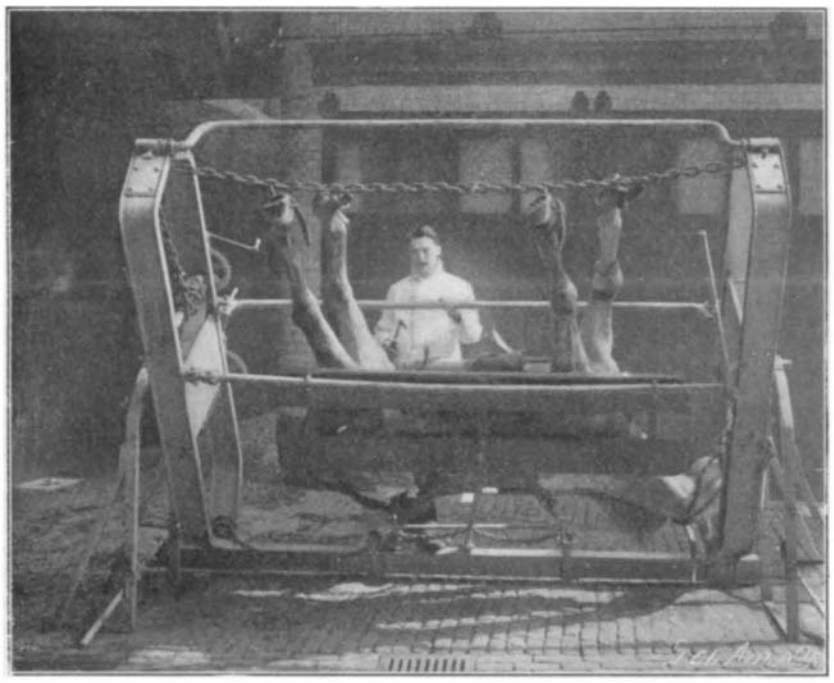


TABLE INVERTED.

and stability of the whole structure are assured. The main body of the table consists of two powerful end-pieces of channel section connected at the top by a stout I-beam. These are connected at the sides and bottom by strong iron rods. The bars at the sides are made movable, so that they can be opened outward to admit the horse into the frame.

The animal's head is thrust into the front end-piece of the frame, the sides of which are padded so that no injury may be inflicted. This front carries attachments for the collar ropes. On the back end-piece are adjusted the crank arms, gear wheels, etc., by which the machine and its movable parts are controlled. The swinging of the frame to any position is actuated by a lever, and so beautifully is the machine balanced that a heavy horse can be rotated with the slightest effort.

The horse before entering the frame is fitted with a strong head collar supplied with two stout cords, while round its body is securely strapped the bed-piece, a kind of broad canvas belt which is wrapped round the animal's body, the upper side of which is attached to two chains depending from a compensation bar. The side bars are firmly secured, the head fixed into the front end-piece by means of the collar straps, and the feet are hobbled to a very stout and heavy iron chain, which is attached to a gear on the back end-piece. By a slight movement of this the feet are drawn slightly apart and kept from movement.

The hanging compensation bar is so arranged that the two chains which are connected to the bed-piece on the horse are pulled vertically at both ends, so that a regular tension is given simultaneously to each chain. When the horse has been placed in the frame the winch on the back end-piece is turned, and gradually the horse is lifted a few inches off the ground. The motion is so gradual that the animal can scarcely perceive it, and should it become at all restive, its struggles are limited and ineffective. The frame is then revolved, without the slightest shock, in either direction, according to the desire of the operator. If necessary, the horse can be turned completely upside down. By means of this table every part of the horse's body is rendered accessible.

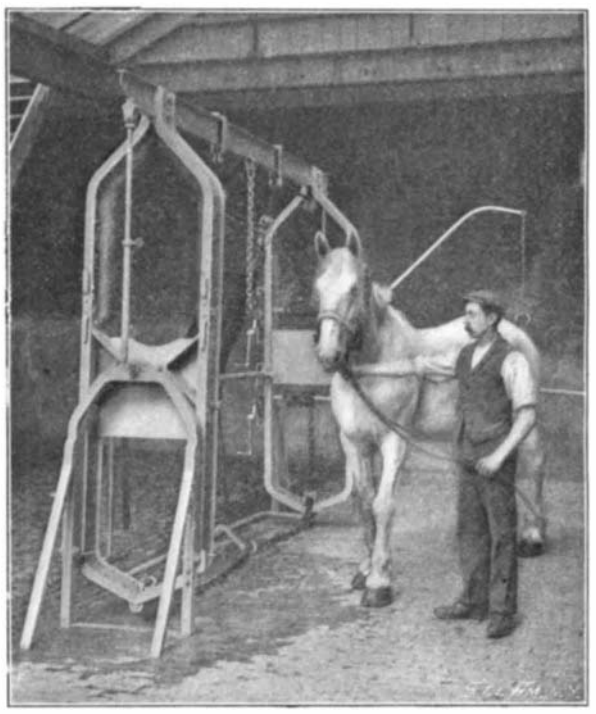
A London Railway Controlled by Americans.

A few weeks ago it was rumored in London that Mr. Charles T. Yerkes, the well-known railway magnate, had arrived in London, and proposed to intersect the whole of the metropolis with street railways, somewhat similar to those with which the principal cities of this country are equipped. The scheme was entirely discredited on all sides as absolutely impossible, owing to the fact that it would not receive Parliamentary sanction. Nothing more was heard regarding the matter from either party, but now it appears that Mr. Yerkes' scheme is no more than a revival of a railway that was projected and sanctioned by Parliament in 1893, but which, for some reason or other, was never carried out. This railway, which was designated the Charing Cross, Euston and Hampstead Railway, proposed to establish communication between the South-Eastern Railway Company's terminus at Charing Cross and that of the London and North-Western Railway at Euston, and then to proceed on to Hampstead, thus giving this suburb direct and rapid connection with the Strand and the West End. The railway, which was to be 4½ miles in total length, was to run through two tunnels, somewhat similar to that of the new electric railway. The authorized capital of the company was $8,880,000 in $50 shares and $2,960,000 in loans. From the first the scheme was unsupported. It was proposed to work it by electricity, and if it had been constructed, it would have been the first electrically equipped railway in London, but at that time the enormous possibilities of electricity as a motive power were but little known, and the majority of investors regarded the scheme as little more than the fertile conception of an imaginative brain, notwithstanding the fact that the directorate included one of the foremost electrical engineers of the country—Sir David Salomons. So affairs drifted on, and the company, although they had not started the work, still remained in existence. Mr. Yerkes was not slow to recognize the vast possibilities that lay before such a line, and how extensively it would be appreciated. The old board of directors who were controlling the original scheme retired, and a new directorate has been composed.

Operations will be soon commenced upon the work. The lines will follow somewhat in the lines of the original scheme, and it is expected, if nothing unforeseen occurs, that it will be completed in two years. The length of the railway will be increased to 6½ miles, and it is estimated that its total cost will be between $15,000,000 and $20,000,000. The engineers are Sir Douglas Fox and Mr. W. R. Galbraith. The most noticeable feature of the enterprise is that it is to be controlled entirely by American capitalists. It is probably due to this fact that it is not creating much interest among Londoners, since the Baker st. and Waterloo Railway, at present in course of construction and rapidly nearing completion, will cover somewhat the same ground, while the other scheme, described in the SCIENTIFIC AMERICAN a few weeks ago, is also receiving the support of English investors.

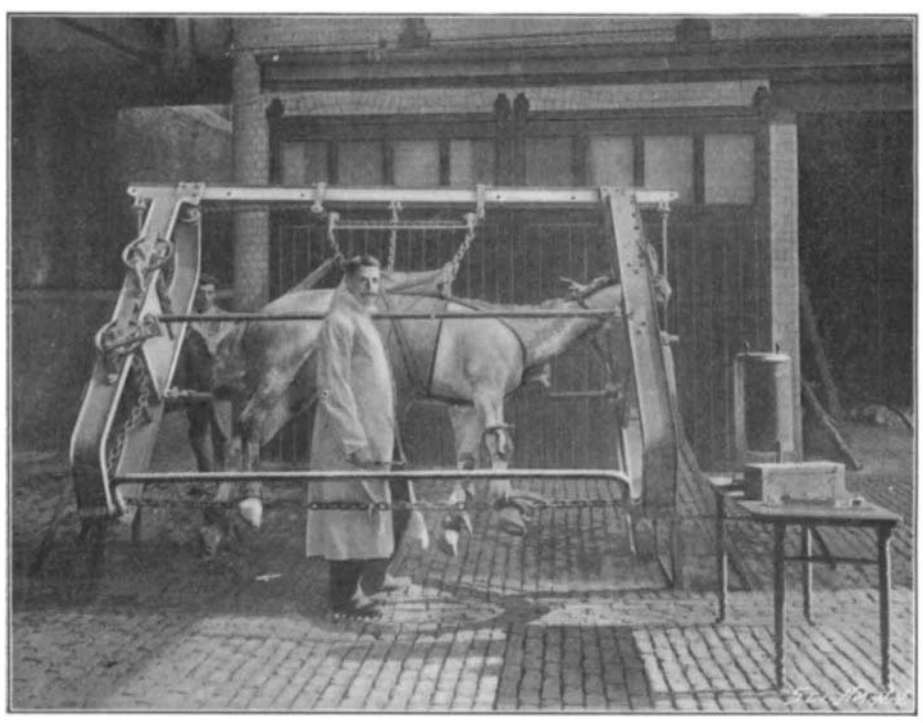
The Imperial Tombs at Speyer.

The opening of the Imperial Tombs in Speyer Cathedral, in the Bavarian Pfalz, was begun on August 17, in order to see what historical relics were left after the rifling of the tombs by the French in 1680 and at the time of the Revolution. The cathedral at Speyer was founded in 1030 and built immediately afterward. There were buried there eight German emperors—



OPERATING TABLE IN THE VERTICAL POSITION, READY TO RECEIVE THE HORSE.

Conrad II., Henry III., Henry IV., Henry V., Rudolph of Hapsburg, Philip of Suabia, Adolph of Nassau, and Albrecht of Austria, who was murdered by Johann the parricide—and three empresses and a princess—Beatrice, the wife of the Emperor Frederick Barbarossa, with her little daughter, Agnes Gisela, the wife of Conrad II., and Bertha, the wife of Henry IV.; two bishops of Speyer, and an imperial chancellor. The definite results up to the present are the discovery of the body of the founder of the cathedral, Conrad II., and that of another emperor not yet identified. A large copper crown was at the head of each body, with a cross and three lilies in the front. The crown found with another body had the following legible inscription: "Gisilla Imperatrix R," proving the remains to be those of the wife of Conrad II. The remains of a figured cloth, with portions of gold edging, were also found. A lead tablet on the grave of the empress gives her birthday as having been on November 11, 999, which contradicts what has hitherto been believed. The bones of Adolph of Nassau are also thought to have been found. An oak casket has also been found in a large vault containing bones from various bodies and a sword. Most probably these are the bones which, after the great desecration of 1680, are known to have been collected together and buried in an oak casket in 1739. Recently another body was found in a state of decay, shrouded in a cloth. There was a copper crown with the body, which is supposed to be that of Henry III. The bones of the Emperor Henry IV. have also been found. The gilded copper crown was broken. The clothing has, unfortunately, mouldered away, except a few fragments. A beautiful heavy gold ring was found on the right hand, with a large rock crystal, surrounded by three pearls set clear in filigree. The workmanship shows Roman forms. The grave of Henry V. was also found.



SHOWS HORSE STRAPPED IN TABLE AND SWUNG OVER UPON HIS SIDE.