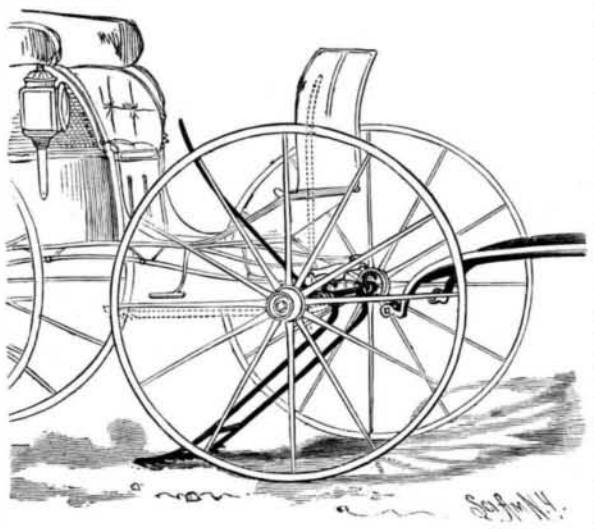
A HORSE DETACHER AND BRAKE.

To release a runaway horse from a vehicle and almost immediately stop the vehicle at the same time, by the movement of a single lever, the improvement shown in the accompanying illustration has been patented by Joseph Friedlander, of No. 219 West Commerce Street, San Antonio, Texas. The invention is an improvement on a formerly patented invention of the same inventor, illustrated in the SCIENTIFIC AMERICAN of February 15. On the front of the forward axle, bearings or boxes are secured by means of clips, a shaft journaled in these bearings having one end carried upward to form a lever or handle, which is held normally in vertical position by a spring connecting the shaft and the axle. Attached to the axle by means of clips, inside of each of the bearings, is a keeper plate having an opening adapted to receive a hook integral with or secured to the shaft, and between the hooks a brake is secured to the shaft, the brake preferably consisting of two rearwardly extending bars, each terminating at its outer end in a shoe with roughened under face. When the shaft is in normal position the bars of the brake extend horizontally under the vehicle, the handle lever then being in vertical position, as indicated by the dotted lines. At the rear end of each thill iron is journaled a roller, which, when placed on a keeper plate, is adapted to be engaged by one of the hooks on the shaft, the hooks being raised out of their openings in the plate by moving the handle lever backward, and the spring turning the shaft and moving the hooks to engagement with the thill irons when the lever is released. To release from the vehicle an unruly horse, the lever is moved backward, as shown in full lines in the illustration, the hooks being thereby raised and releasing the thills, while at the same time the arms of the brake lever are carried downward, so that their shoes will engage with the ground.



FRIEDLANDER'S HORSE DETACHER AND BRAKE.

COMBINED GAS ENGINE AND CENTRIFUGAL PUMP.

A combined gas engine and centrifugal pump recently supplied by Messrs. Crossley Brothers, of Openshaw, Manchester, to the River Wear Commissioners, at Sunderland, is illustrated by the engraving below. Three of these engines and pumps are used for emptying the No. II graving dock belonging to the commissioners.

Some time ago, when the question of pumping plant was under consideration, Mr. H. H. Wake, M. Inst. C.E., the engineer to the commission, decided on adopting gas engines instead of steam, and after having thought over the different means of driving the pumps, resolved on having them coupled direct to the engine crank shaft. By this means a much smaller engine house is needed than would be the case if the pumps were driven by means of belts, and the loss due to slip and trouble in taking up the slack are avoided.

The engines are of 40 nominal horse power, and are capable of giving off 120 brake horse power when running at 210 revolutions per minute. They are of Messrs. Crossley's well-known type, but only one fly wheel is keyed on the engine crank shaft, the other being carried on the outer end of the pump shaft, kept large in diameter for the purpose. A very strong flange coupling is forged on the inner ends of the engine and pump shafts; and they are bolted together by means of steel taper bolts.

The sole plates of the engine and pump are bolted together, thus making a strong and selfcontained job. The centrifugal pumps are 22 in. in diameter, and have been specially designed to meet the circumstances of the case. Each engine and pump is capable of lifting 2,380 tons of water per hour 24 ft. high.

The speed of the engine and pump can be regulated at pleasure to suit the varying head against which the water is delivered, by means of an adjusting screw on the engine governor; and at a recent trial it was found that when only running at 180 revolutions per minute the pumps emptied the dock in much less than the specified time. We hope shortly to publish full particulars of the test.

The engines work with coal gas from the street mains, and can be started at a moment's notice. Undoubtedly gas engines have many advantages over steam for this class of work, as preliminary expenses in getting up steam are avoided, the motive power being always ready, and consumption of fuel ceases as soon as the dock is emptied. We are indebted to the London Engineer for the cut and copy.

Why Latin is Used.

The New York Herald publishes the following reply to the query why doctors use Latin in writing their prescriptions instead of English.

In the first place, Latin is a more exact and concise language than English, and, being a dead language, does not change, as all living languages do.

Then, again, since a very large part of all drugs in use are botanical, they have in the pharmacopœia the same names that they have in botany—the scientific names. Two-thirds of such drugs haven't any English names, and so couldn't be written in English.

But suppose a doctor did write a prescription in English for an uneducated patient. The patient reads it, thinks he remembers it, and so tries to get it filled from memory the second time. Suppose, for instance, it called for iodide of potassium, and he got it confused with cyanide of potassium. He could safely take a number of grains of the first, but one grain of the second would kill him.

That's an extreme case, but it will serve for an illustration. Don't you see how the Latin is a protection and a safeguard to the patient? Prescriptions in Latin he can't read, and consequently does not try to remember.

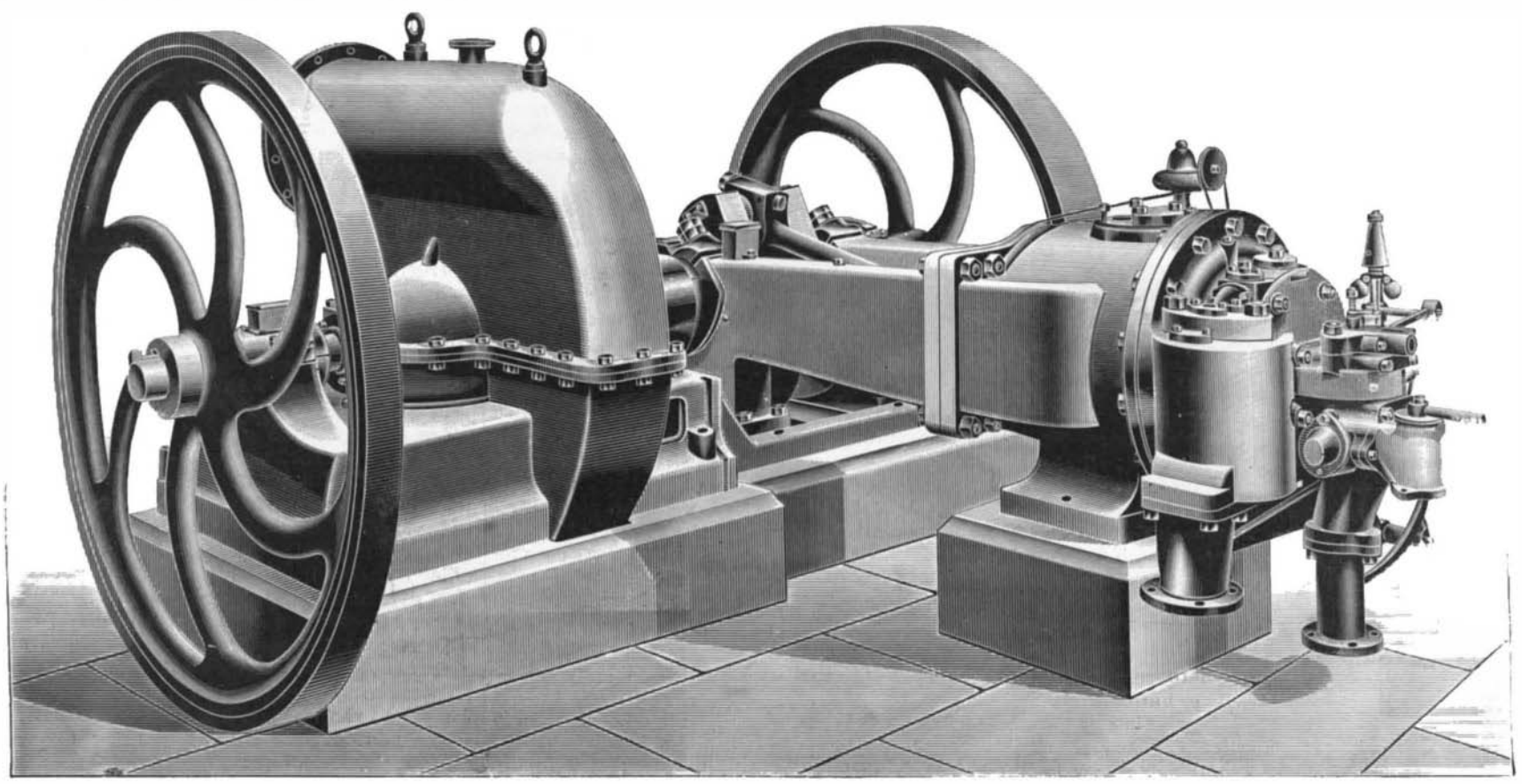
Now for a final reason. Latin is a language that is used by scientific men the world over, and no other language is. You can get a Latin prescription filled in any country on the face of the earth where there is a drug store.

We had a prescription here the other day which we had put up originally, and which had since been stamped by druggists in London, Paris, Berlin, Constantinople, Cairo, and Calcutta. What good would an English prescription be in St. Petersburg?

A HOOF SPREADING DEVICE.

For spreading the hoofs of horses or mules, to prevent and cure lameness, the simple and inexpensive device shown in the accompanying illustration has been invented and patented by Jacob Trenkle, of Portville, N. Y. It consists of a metal yoke piece bent to conform to the contour of the hoof on which it is to be applied, and having at each end an inwardly bent hook member adapted to engage the rear ends of the coronary band on the hoof of the animal. The yoke piece is preferably of thin steel, and when in position inclines upwardly and forwardly, encircling the hoof and fitting closely thereon. The device is preferably employed in connection with a light shoe formed of two pieces jointed at their forward ends, the shoe also having at its rear ends hook-shaped lips which engage the coronary band. When it is desired to spread one-quarter of the hoof only, the joint of the shoe is placed at one side of the toe, instead of centrally, and one hook member of the yoke piece is made to engage with a notch in the shoe instead of with the coronary band, the full force of the expansive spring then being exerted to spread the hoof on the other side. The moderate pressure constantly applied in this way is adapted to gradually effect the desired divergence of the parts, relieving sensitive portions and promoting a better circulation.

TRENKLE'S HOOF SPREADER.



LARGE COMBINED GAS ENGINE AND CENTRIFUGAL PUMP.

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