

A NEW METHOD OF DISTRIBUTING OIL ON WATER.

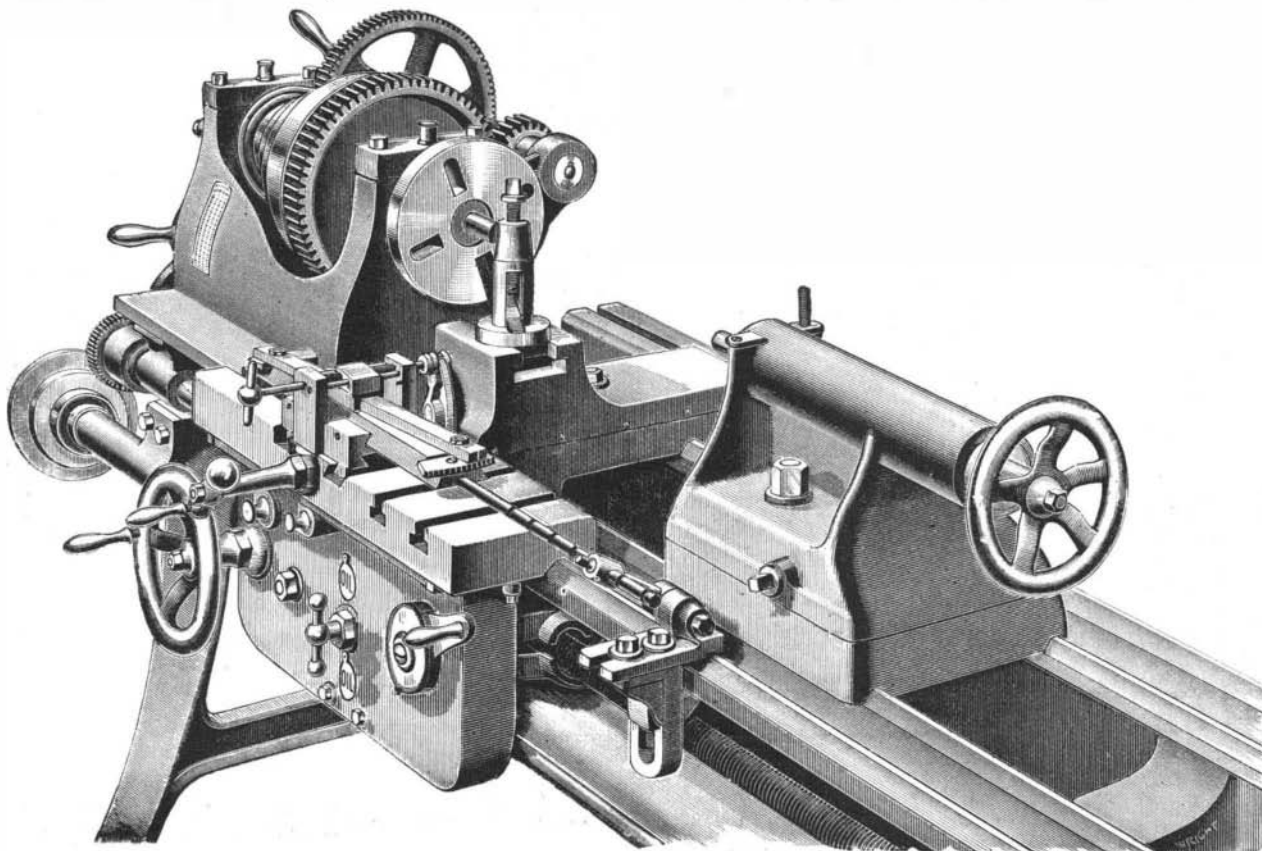
Mr. P. Samohod, of Lima, Peru, sends us a sketch of a simple apparatus which he has devised for the distribution of oil from vessels on the surrounding sea surface in stormy weather, and suggests that possibly our government would be willing to give it a trial. The apparatus, as shown in the illustration, comprises a somewhat bow-shaped distributor, near the ends and center of which are globe-shaped, perforated, copper oil receivers connected with each other by metal tubing, and surrounded by sponge, the whole inclosed by a varnished leather cover with many perforations protected by metallic eyelets. The small figures represent the distributor in section and perspective. It has



two metal bands from which chains pass to the deck of the vessel, other chains being connected to facilitate its suspension from the bowsprit. An oil supply hose of good varnished leather or other preferred material extends from a pipe in communication with a pump and reservoir on the vessel to the central one of the three oil receivers, by means of which the oil may be forced into and through the distributor as desired. It is also provided that the oil will pass through a section of coil in a simple form of heater where a lamp may be placed when the weather is cold. It is designed that the length of the distributor shall be equal to about one-third of the maximum width of the vessel. The great efficiency of oil, when used even in small quantities, for the quieting of a pretty large area of the sea around a vessel, and thus materially mitigating the dangers to which vessels are sometimes exposed, has often been fully demonstrated, and its use for such purpose is now becoming quite frequent. The apparatus shown is designed to afford an inexpensive and effective means of so distributing the oil that the vessel will receive the greatest benefit.

AN IMPROVED LATHE ATTACHMENT.

The illustration represents a recently patented appliance adapted for use on any lathe, and readily transferable from one lathe to another. It is attached by taking the nut off of cross feed, so that the tool block can be adjusted by screw in taper attachment, the device being easily operated from any of the four V's on the lathe bed and set at front or back of tool block. It has two sliding jaws to be clamped to the cross slide of the lathe, and operated by a right and left hand screw, so that the attachment will always be in center of tool block. A clamp or strap is furnished to be attached to the tool block, in which a hole is drilled and tapped to receive a binding screw, and when the strap is in position the adjusting nuts on the cross feed screw are set so there will be no end play. The connecting rod is grooved in several places to receive the binding screw in clamp. The taper bar is graduated on one end, so that any desired taper can be easily obtained, and when straight and taper work are to be done on the same piece, the changes can be quickly and easily made. This

**THE HODGE-FRAZIER TAPER TURNING ATTACHMENT.**

attachment is furnished by the Prentiss Tool and Supply Company, of No. 115 Liberty Street, New York City.

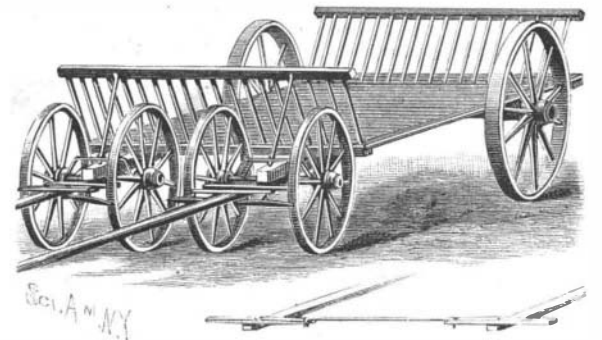
Gaseous Fuel.

The London *Lancet* publishes the result of an exhaustive inquiry, in which the practicability of employing gaseous fuel for heating and cooking appliances is fully discussed. The article contains a very considerable number of experimental data, upon which the deductions and conclusions contained therein are drawn up. At the outset the opinion is expressed that the universal adoption of gaseous fuel would unquestionably prevent the formation of unhealthy and smoke-laden fogs. With the view of determining whether the gas-producing centers of London would be equal to the increased production of gas necessarily involved, the *Lancet* quotes some facts and statistics of an important character—e. g., taking the Gas Light and Coke Company as a typical source of supply, it is shown that at present their production of gas is equal to twenty thousand million cubic feet per annum, representing some 6,000 tons of coal carbonized per diem; and in order to distribute this enormous volume of gas there are laid down in London streets nearly 2,000 miles of main, exclusive of services and other companies' supply. But the *Lancet* finds a striking and complete answer to the question as to whether the gas companies would be equal to the task of supplying an increased volume of gas were it demanded by its application for heating and cooking purposes in the following remarkable particulars: On Tuesday, December 1, 1891, with the thermometer at 46° F., the consumption of gas was 82,000,000 cubic feet from the Gas Light and Coke Company's works; on Thursday, the 17th, temperature 37°, the demand was 92,000,000. Then suddenly a fog set in, and on Friday, the 18th, temperature 26°, no less than 118,000,000 were required, while on the following Tuesday as much as 128,000,000, that is, some 50,000,000 cubic feet of gas above the normal daily winter demand, and an addition nearly equal to the daily average supply, was consumed. The *Lancet* suggests that if this enormous increase can be successfully grappled with at a single day's notice and maintained for several days (it is often only a few hours' notice, for there are no means of ascertaining the precise moment when fog will appear or when the temperature will suddenly fall), it is probable that even the existing plant, both manufacturing and distributing, is equal to the increasing requirements necessitated by the application of gas for purposes other than those of lighting. The report then discusses the relative heat values of coal and gas, and it is shown that the gas produced from a ton of coal—that is 10,000 cubic feet—is, as regards heat value, broadly one-fifth of the coal from which it is derived, supposing that the total energy of the mineral is utilized; but, as is pointed out, while a large proportion of the heat value of coal is lost in the shape of incomplete products, inflammable gases, soot, etc., gas admits of complete combustion under easy circumstances, and its total heat value is, therefore, utilized. That is, while gas does its duty fully, coal, as commonly consumed, fails largely in this respect. With gaseous fuel there is small possibility of undesirable products being formed, while an important economy as regards heating effect is at the same time secured. The probability of a cheaper gas supply is then discussed. The description of types of stoves follows, and the *Lancet* explains that no senti-

mental objections on the score of cheerless appearance need obtain on the installation of gas firing, as in by far the majority of cases the stoves at hand are provided with a form of indestructible fuel or coal, which is maintained at a cheerful glow by the heat of the almost invisible atmospheric burner. A very considerable number of experiments with various stoves are then recorded and are embodied in a table occupying two pages of the journal. In dealing with the results comparisons are drawn, defects are pointed out and certain improvements are indicated. The provision of an adequate flue is absolutely essential to the working success of gas stoves; upon this point the *Lancet* is emphatic, as it seems to be a popular idea that because gas fires do not smoke they require no means of carrying off the products of combustion.

AN IMPROVED WAGON.

A wagon having its hauling gear arranged in such a way that a large team of horses may be hitched close to the wagon, which may be easily hauled and the team readily controlled, is shown in the accompanying illustration, and has been patented by Mr. David W. Cotes, of Guthrie Center, Iowa. The wagon has a bed much wider than usual, and with sills projecting forward to be fastened by the ordinary king bolt to short axles, each of which carries a pair of wheels. The axles have forwardly extending tongues, with the customary whiffletrees, whereby four horses may be hitched abreast, the neck yokes of the tongues being coupled together by a detachable rod so that the horses will pull together effectively. When the wagon is used for hauling hay or other bulky material it may be provided with racks at the front and rear, or all around,

**COTES' WAGON.**

but, without such racks, the wagon presents a broad, firm bed, affording a firm foundation, and adapted to receive scraper loads of dirt or other material.

Difficulties of Identification.

During the progress of a recent murder trial in New York medical witnesses testified it would be impossible to identify the remains of the deceased after burial for three months, without embalming. Also that it was impossible to determine whether poison found in a dead body had been ingested before or after death.

Dr. Herold testified that in one case occurring in his duty as a coroner's physician the body, lying in a police station, was claimed during the evening by three different women, each identifying the dead man by means of a photograph as her husband, and it turned out that neither of them was the wife of the dead man. He had been dead forty-five minutes.

In another case a woman identified her dead husband in a station house, and then went home to find him safe and asleep in bed.

In another case a widow buried the body of her husband; but the real husband turned up alive and well three months later.

The witness said the first putrefaction changes were found in the face within two hours of death.

THE senior class at Yale numbers 185 students; of these 54 wear glasses, the necessity for such aids to vision having, in 25 of the cases, arisen since the students entered the college. The average age of the members of the class is twenty-two.