

A NEW APPARATUS FOR THE COALING OF WARSHIPS.

BY OUR BERLIN CORRESPONDENT.

An apparatus for the coaling of warships on the high sea, based on the principle of the Miller apparatus used in the American navy, has been recently invented by Georg Leue, a Charlottenburg engineer, and has just been submitted to severe tests in the German navy. The apparatus comprises: 1, an endless rope for transferring coal bags from one ship to another; 2, a "compensator" station; 3, a reversing station; 4, a "compensator" to account for the variable position of the endless rope; 5, a driving mechanism connected with the compensator, to move the end of the rope; 6, the "elevator" installed on the coal ship, which lifts the sacks up to the ropeway; 7, a slipping device for throwing off the end of the rope in case the towing rope should break, or when the coaling is finished; 8, the sack hooks with the sacks; 9, the chutes on which the sacks slide down upon the deck.

In starting the apparatus, the towing rope is first brought out, after which the endless rope is reeved. The slip rope is passed over to the other ship and fastened there to a block. The proper sag of the endless rope is next fixed by easing off the towing rope, and the motive agent (compressed air, steam, or water) admitted to the compensator, thus stiffening the endless rope. The driving motor is next started, when the rope, and with it the elevator, begins to run, and the whole outfit will be ready for operation.

The sacks, provided with hooks, are hung on the elevator installed on board the collier, and after having been raised, remain firmly attached to the rope. During the rotation of the endless rope they arrive at the mast of the other ship, and there are automatically detached from the rope, falling into the chute and sliding down upon the deck, where they are emptied. Several empty sacks having been put into another empty sack, are conveyed back to the coal ship on the endless rope.

Owing to the motion of the ships and of the sea, the tension of the towing rope is submitted to great variations. The conveying rope connecting the two ships would share this movement even in an increased measure, so as to render any hauling impossible. To obviate this drawback and to maintain the proper tautness of the conveying rope, there has been provided the apparatus called the "compensator." This is of a similar construction to a tackle, and releases the rope by a multiple of the distance to which the pulleys approach each other, drawing it in in a similar manner by a multiple of the distance to which the pulleys are drawn away from each other. The pulley systems are united by cylinders sliding inside one another and in the interior of which a certain pressure is maintained, counteracting the tension in the rope. If this tension augments, air escapes through a maximum valve, and the systems of pulleys approach one another until the pressure and tension accurately counterbalance each other, while just the opposite process takes place when the tension in the rope is lessened. The apparatus thus tightens or relaxes the rope to the extent of 200 feet and more. If the towing rope

should break, the endless rope is thrown off automatically, as the slip rope being tightened actuates the releasing mechanism of the reversing pulley, tilting this over, so that the rope springs out of it and is also thrown out at the reversing station. The rope itself falls into the water, whence it is withdrawn. The ships then are quite separated.

After the coaling is finished, the endless rope can also be thrown off by hand, by pulling at the slip

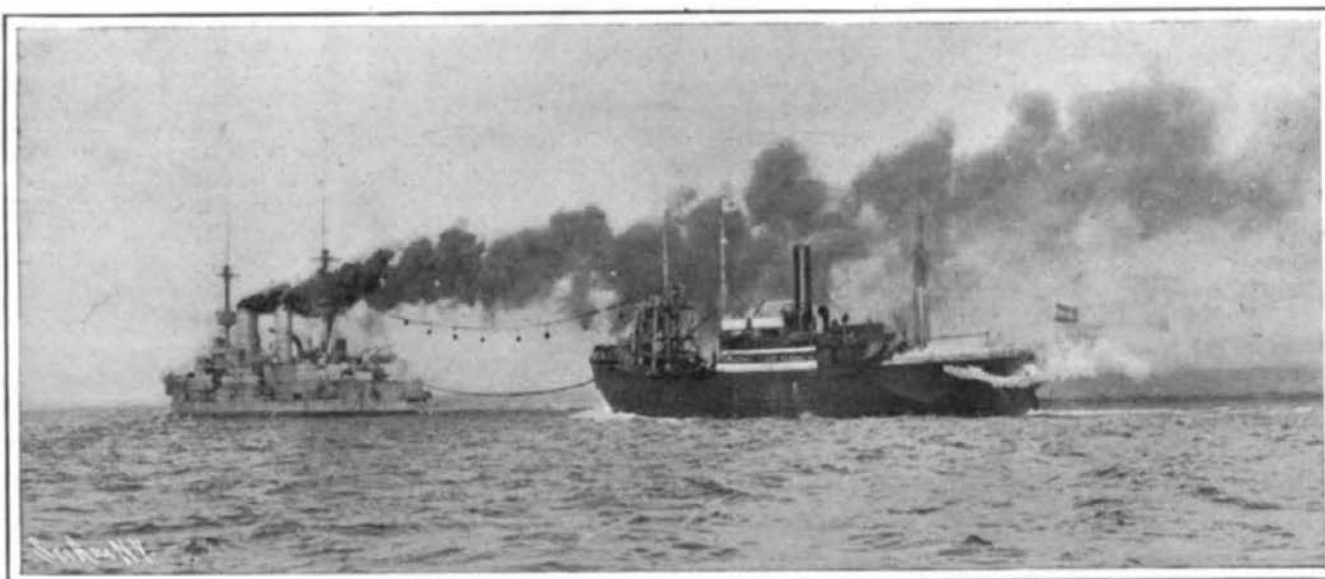
rope. As the stations on the mast adjust themselves automatically to the relative position of the ship, sheerings up to 45 deg. in either direction are of no influence whatsoever on the working of the apparatus.

An interesting series of trials was carried out in February last in the German navy between the armored cruiser "Prinz Heinrich" and the collier "Hermann Sauber," chartered by Mr. Leue. On February 17, while there was little wind and a smooth



Placing the Bags on the Conveyor.

sea, as much as 56 tons of coal per hour were transferred to the "Prinz Heinrich," which towed the collier at a speed of 11 knots per hour. The weight of each coal sack was 250 pounds. On the 22d of February these experiments were continued in very bad weather with a strong gale and very rough sea, during rain and snow storms, while the ships were sailing at the same rate of 11 knots per hour. During the first two hours 105 tons of coal were transferred to the "Prinz Heinrich," which figure, according to



The German Armored Cruiser "Prinz Heinrich" Coaling at Sea.

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the opinion of experts, might however have been easily increased up to 60 tons and more per hour, had there been a greater number of sacks and more men available on board the warship, so as to allow the arriving sacks to be more rapidly emptied.

The apparatus, from the time the rope was shot off until the first full sack of coal was transported, was got into working order within 24 minutes. This has not been approached by previous inventors.

Who Owns the Prescription?

In certain States where prohibition laws are in force the pharmacist is compelled under penalty to retain prescriptions for spirituous liquors and to refrain from refilling them; and in one or more other States this restriction is applied also to morphine and cocaine.

Now, the pharmacy law of Rhode Island (unless it has been recently amended in this particular) requires the retention of the prescription by the dispenser, but it also provides that a copy of it must be furnished free of expense to either the writer, or the "purchaser" of it, whenever demanded. With these exceptions there are no statutes which bear on the subject.

The Rhode Island law, it will be noted, while it makes the dispenser the custodian of the prescription, does not prevent the patient from still making use of it—the copy is, of course, practically the same thing as the original.

Magistrates have decided the question of ownership both ways; and there have been rumors from time to time of decisions by the higher courts settling the matter, but there is no such decision on record; and although the subject has been discussed with considerable frequency, no one has yet given us a reference to one.

Usage favors the pharmacist in this country as being the proper custodian of the prescription, but abroad this is quite the reverse. If a customer demanded from a pharmacist the return of a prescription which had been retained by him, a successful legal resistance of this demand might turn somewhat on the motive of the refusal. If it were shown that the pharmacist was in the habit, as is usually the case, of refilling prescriptions at the request of the patient, and that consequently his refusal was not a matter of public policy—an effort to protect the ignorant from the dangers of self-prescribing—but merely intended to compel future custom, a court and jury would not be likely to sustain his refusal.

In view of the many evils resulting from the application of medical advice intended for one condition to another perhaps totally different—even extending to the "lending" of prescriptions to sick friends—it would be to the advantage of the community if the refilling of prescriptions without the authority of the physician could be prevented. Perhaps this could be constitutionally done by law on the ground stated, but until it is, the patient will have rather the stronger side when there is a dispute about ownership.—The Druggists Circular and Chemical Gazette.

A motor-driven rail mill is in operation at the Edgar Thomson plant of the Carnegie Steel Company at Bessemer, Pa. It is equipped with two 1,500-horse-power, 30-pole, 220-volt, direct-current motors overcompounded 15 per cent, which operate at from 100 to 125 revolutions per minute. Each motor carries a 125,000-pound cast-steel segmental fly-wheel which relieves it from the extreme shocks of rolling. The power delivered by each motor ranges from 950 to 1,450 horse-power in rolling rails, with occasional jumps to 1,700 horse-power; the friction load on the mill running light is estimated at about 500 horse-power.

A wind pressure of 30 pounds per square foot is specified in the New York building laws for buildings more than 100 feet high, with an allowable unit stress of 50 per cent more than for dead or live loads. Fowler gives 20 pounds for buildings less than 20 feet high and 30 pounds for buildings 60 feet high; with no extra allowable unit stress.