Medicine and Surgery

Workers in Munition Plants Are Exposed to TNT Poisoning—But There Are Ways of Warding Off Danger

LEAD poisoning has a rival in TNT poisoning, according to an editorial in "The Engineering and Mining Journal." Indeed, says this magazine, one of the greatest dangers to workers in the highly developed munitions industry lies in the nitro and amido compounds of benzol and tuluol, one of which is trinitrotoluol, or TNT, a powerful explosive. To the latter many workers are exposed in its manufacture and in shell loading. It is readily absorbed through the skin and respiratory tracts. Although such absorption cannot be prevented altogether, it can be made so slight that no workers, except, perhaps, those especially susceptible, will have symptoms of chronic poisoning.

Continuing, this journal remarks:

"The Public Health Service of the Treasury Department has published an article giving practical points on safe handling of trinitrotoluol and dealing primarily with the shell-loading processes, of which there are two. The compound is either pressed into the shells by power presses while in powdered form, or is poured into them while molten. In the former method, used only in the case of large shells, simple measures will prevent poisoning. The article therefore deals principally with precautions to be taken where the latter method is used.

"It is recommended that workrooms be constructed ,to secure complete segregation of each stage in the process of loading; that long, narrow, one-story buildings be used; that a convevor system be adopted to avoid unnecessary handling of the substance; that workers be instructed as to the danger of poisoning; that they secure as complete protection of the person as possible by overalls, caps and gloves; that they avoid all alcoholic beverages; that they take milk or milk products with their breakfast previous to starting work; that they observe the strictest personal cleanliness; that persons under twenty-one be kept from handling the compound, as they are especially susceptible to the poison; that men be employed for only eight hours a day when working with trinitrotoluol; that those employed in the most hazardous parts of the work be rotated to less hazardous processes at least every two weeks; and that an efficient system of medical supervision be established."

Air Raids and Infant Mortality

THE effect of air raids on the infant mortality rate of London is shown by "The London Lancet" in the course of an article upon infant mortality in England during war conditions. Recent figures show that the English rate of infant mortality has generally decreased during the war. That is, in 1914 it was 105 per 1,000; in 1915, 110, probably owing to the general dislocation in the habits of the English by the novel conditions of warfare; in 1916, 91, and in 1917, 97.

But a peculiar fact concerning the figures for 1917 is that the mortality rate rose 16 per 1,000 in London, against 6 for country districts. This is thus accounted for by "The Lancet":

"There must therefore be some special factor in 1917 which has been more operative in taking this toll of infant life in London than elsewhere. The factor is not far to seek and can be none other than the cumulative action of prolonged mental strain upon the nursing mother. Biological principles automatically insure a large measure of maternal altruism, and so long as the mother is able to suckle her infant the quality of her milk remains good in the face of real privation such as has been experienced in occupied territory; but there comes a point at which mental strain results in the cessation of the supply of breast milk, and the experience of welfare centres in a part of London hitherto more exposed than others to the strain of aerial warfare has shown a serious diminution in the number of infants solely breast-fed up to the normal age of weaning.

"Doubtless other factors also come into play. The regularity of the infant's manner of life has been affected, sleep impaired, and unlimited opportunities of exposure and infection provided. Organized effort is urgently required to combat these evils intelligently and to mitigate the harm which is occurring to the London infant from deficient lactation. The startling fall in the birth rate, which the Registrar General also records, may be a matter of regret, but is simply the inevitable result of the segregation of the sexes entailed by the war. But the child welfare administrator has immediate work to do which will leave scant time for vain regrets."

Typhus in Petrograd

THAT typhus should be reported on the increase in Petrograd is not surprising to "The Lancet" (London), which reminds one that typhus has long been prevalent, mildly at least, in Petrograd. Now, however, with the government disorganized, refugees crowding in, and a general breakdown in sanitation agencies of Russia, naturally typhus will come back, concludes this journal. Yet it need not:

"With sanitation typhus fever gradually disappeared from Britain and more advanced countries; practically, exanthematic typhus in England may be said to be an extinct disease. But it is otherwise in Russia, and particularly in Petrograd, where personal and domestic hygiene is little practised. When personal uncleanliness, infestation by lice, overcrowding, and other insanitary conditions are aggravated by shortage of food and other necessaries, as well as by the withdrawal of skilled medical and sanitary supervision, it is little wonder that a disease like exanthematic typhus has been able to increase and multiply. In the absence of a competent and responsible health authority to enforce appropriate preventive measures, including the isolation of the sick in hospital and destruction of body vermin, the present epidemic will probably continue for some time.

"There is, therefore, the dismal prospect immediately before the people of Petrograd that there will be a considerable increase of physical suffering to many of them, with a high proportion of fatal results, from a pestilence that is easily preventable if the teachings of modern medicine are followed."

Around the World and Back Again

When Forest Fires Were Unwittingly Beneficent

SHEER accident, according to a writer in "The Paper Mill," brought about a discovery of Canada's richest asbestos deposits. The account runs as follows:

"Although asbestos was discovered in Northern Vermont as early as 1824, its presence in Canada was not suspected until 1861, when it was found in the Province of Quebec, about midway between the villages of St. Joseph and St. Frances, near the Des Plates River. In an effort to raise capital to finance the project, samples of this Canadian fibre were exhibited in London the following year, and aroused such interest that a limited amount of money was raised. Unfortunately, the vein first found was not extensive, and mining operations did not yield the results expected. The next fifteen years the situation was virtually dormant, and the asbestos industry in Canada was practically forgotten.

"The big discovery of 1877 in the now famous Thetford and Coleraine regions revived hopes for a Canadian asbestos industry which have been more than realized. . . . There is no doubt that these enormously valuable deposits would have been lost to the present generation, and perhaps the present century, had it not been for forest fires that swept this region, burned off the undergrowth and denuded the surface, exposing the fibrous rock to view. . . . Nature, in a moment of fury, removed the covering that for centuries had hidden one of Canada's richest treasures."

* * *

The Spruce Shortage and Aeroplanes

THE value of spruce lumber and how a shortage in the commodity is affecting America's airplane plans are suggested by an article in "The New York Lumber Trade Journal," part of which follows:

"It is stated that while there is no dearth of such timber the demand for it during the past three years has increased so greatly as to exceed the capacity for production. Prior to the war this class of stock brought about $100 per thousand, but the Allies having used it almost exclusively in the construction of their aircraft since the outbreak of the war, the demand has caused the price to rise to $200 per thousand.

"The average aeroplane requires not more than two hundred feet of wood for its construction, but until the recent standardization in sawing specifications was effected by the conference between the representative of the spruce manufacturers and the aircraft experts of the Allied governments and the United States it had been necessary to cut approximately one thousand feet to get out the desired amount of timber for one aeroplane.

"Constant efforts are being made to find some other wood that can be substituted for spruce, but up to the present time none has been found which combines the qualities of strength, lightness and flexibility, each of which is absolutely essential, and all of which are possessed by spruce.

"After being turned out of the mills the wood must be thoroughly dried before it is available, and that has been done heretofore in the open air, which has required several months. It is believed, however, that two processes have been found recently by which the wood can be dried in kilns without reducing its flexibility. If the processes prove to be a success it will mean a great saving of time in manufacture and will enable the manufacturers to speed up the production of aeroplanes.

"The output of this class of spruce for the year 1916 was 33,000,000 feet, virtually all of which was used in the construction of aircraft. This year, in order to meet the enormous demand created by the programme of the United States, the production must be greatly in excess of that amount.

"One of the results accomplished by the conferences between the lumbermen and the aircraft experts was that the former offered to make the price $105 a thousand for spruce, and it is believed the War Industries Board will recommend the acceptance of a figure approximating that amount."

* * *

The Nice, Naughty Muskrat

ALTHOUGH the muskrat is the most valuable fur animal in the United states, under some circumstances it becomes detrimental and is responsible for considerable damage to growing crops, irrigation ditches, mill dams, etc. Where the animal is not troublesome, biologists of the United States Department of Agriculture suggest that it be protected and trapped for fur. Even where the animal has become somewhat of a pest its numbers often may be kept down by trapping, while the sale of pelts makes such activities profitable. Often crops may be protected by the erection of wire-mesh fences between them and the marsh or pond where the animals live. Such fences should reach at least six inches beneath the surface of the ground to prevent the muskrat burrowing under.

Where the animals prove troublesome by causing breaks in embankments, dams and in the sides of irrigation ditches probably the most practical remedy is to employ a trapper and hunter to patrol the property both night and day. In narrow waterways barrel traps have proved efficient in catching large numbers of these animals.

By erecting more permanent works owners of embankments, dams, etc., may guard against injuries to their property by muskrats. A more general use of concrete, for example, has greatly minimized such troubles. The more liberal use of gravel or coarse sand for the surface of embankments has been found effective, since the animals will not burrow in soil that fills the hole as fast as they open it.
—From *The Weekly News Letter of the Department of Agriculture.*

"Far From the Madding Crowd"—A Scene in Central Brazil
—From *The South American*, courtesy Clayton S. Cooper.

Cheese and the Weather

ON account of the farreaching effect of climate and weather on crop distribution and production the scope of agricultural meteorology is wide. Very few people connect cheese and weather. But it is a fact that most of the cheese factories in Wisconsin find themselves in an area where the mean summer temperature is below 70 degrees Fahrenheit, while the creameries are in the regions warmer than 70 degrees Fahrenheit. A recent report of Professor J. Warren Smith to the Ohio Academy of Science states that with July rainfall two to two and one-half inches the average yield of the 30,000,000 acres of corn in Missouri, Iowa, Illinois and Indiana is twenty-three bushels an acre, but that with two and one-half to three inches the yield is thirty-three. In other words, in this region a half-inch of July rainfall is worth ten bushels of corn an acre. The period immediately after blossoming, or August 1 to 10, in the middle of the corn belt is the most critical in the growth of corn; relatively cool, moist weather at this time favors the highest yields. Potatoes in Ohio are affected by July weather more than by that of any other month; relatively cool, wet weather is best.

Germany Grows Boastful Over Batik

A UNIQUE exhibition began in Berlin November 1 called the Batik Exhibition. The Batik process, which was discovered in the Dutch Indies, consists of dyeing in designs upon velvet and similar goods, with an application of wax upon the parts to be left uncolored. The Germans now claim to have developed the process in some remarkable ways, so that this exhibition is described in a boastful way in the press as not only a triumph of the German dye industry, but also as registering further progress in finding ways and means to hold through to the bitter end with the war. It is claimed, for example, that the well worn garments of the German people can be treated "batikally" and made to look as good as new, besides making them lasts much longer. Beyond that, the further claim is made that the Germans have learned to "batik" wood pulp and give it a silky finish. According to the reports from Berlin over three hundred German and Austrian "artists" had entered their products for the show.

* * *

In Japan Women Engage in the Arduous Task of File-Driving

NOT the least important of the occupations of Japanese women is pile-driving. So says William G. Robbins, formerly a junior engineer in the Third Division in a letter to Milton Kempner, assistant division engineer, which is published in "The Public Service Record." He writes:

"Instead of using a steam hammer the weight is lifted by hand. Ten women, each pulling a rope, lift a heavy weight up to a certain height and then drop it. The weight slides along a rod, the bottom of which is attached to a cap of the pile, the top to the falsework above.

"These women get 30 sen (15 cents) a day. In order to work in unison, they sing, and when their song reaches a certain point all let go the rope.

"Those who have lived in Russia will, no doubt, find very great similarity between this song and well known Russian 'Dubinushka.'"

* * *

The Military Strength of Central America

"THE SOUTH AMERICAN" (New York), in its December issue, has this to say on the subject of the military preparedness of the tiny semi-Indian states:

"Each of them maintains an army. San Salvador, 378 officers and 82,881 men. Costa Rica stands ready to put into the field 52,208 soldiers, and, in times of war this number can be doubled. Guatemala's military strength surpasses that of her sister republics, but no exact figures are available. Honduras can throw 55,000 into the war at a moment's notice. Nicaragua is able to mobilize 40,000."

Matters Touching Religion

The Kaiser's Ecclesiastical Steam Roller Has Sought to Keep the People in Religious Submission

A REMARKABLE article by Louis Wallis in "The Public" sketches the steps by which divine right in Germany came to be the accepted order. He traces the slow rebellion of thinkers like Kant, whose scientific investigation has at length begun to open the eyes of the people. The article, in part, follows:

"Junkerism gathered the economic and political power of Germany into its hands during the Reformation, and employed the machinery of the Lutheran churches to control the common people. Theological professors and clergymen were appointed by the Junker authorities, while the people were forced to attend church and listen to what the clergy had to say. A huge body of Biblical interpretation was constructed which buttressed the rule of the nobility. German philosophy also, until far into the modern period, was merely an elaborate attempt to explain ecclesiastical dogmas.

"Thus it appears that Junkerism not only stands for political and economic rule, but that it also represents religious tyranny. The Kaiser's sanctimonious claim of partnership with the Almighty is no new thing. Church and state have been identified in Germany for centuries; and the Emperor has inherited, among other implements of his office, an ecclesiastical steam roller which is used for crushing professors and preachers who exhibit undue tendencies toward freedom of thought. The philosopher Kant, who signalized the break with Junker theology, felt the weight of this instrument, while more recently it has been employed for the purpose of suppressing that mysterious and unique manifestation of German radical genius called 'Higher Criticism.' A new Prussian heresy law went into effect just before the present war, under which a number of clergymen were forcibly driven from their pulpits; and the rise of a liberal church movement in Germany has been temporarily stopped only by the distractions of the war itself.

"The story is quite simple:

"In early times the peasants of Germany enjoyed the right to pasture their cattle on the waste lands, to cut wood in the forests and to fish in the streams. But in the fifteenth century these rights were gradually withdrawn. The old tribal common lands were inclosed and became the property of the German aristocracy. Along with the monopolization of the soil there went a widespread rise in prices which affected not only the luxuries of the rich, but the commonest articles of household necessity. All Europe seethed and rocked with the social problem, and there was tremendous antagonism between the upper and lower classes when the curtain rose on the stage of modern history.

"Then, as now, Germany was at the centre of the storm. The peasantry had been restless for generations, breaking out here and there in frequent revolts characterized by demands for ancient rights of access to the bounties of nature. These uprisings passed into a general insurrection which is called the Peasants' War. The common people went about in armed bands, as did the French peasantry at a later date. The Junkers rallied, however, and put down the vast rebellion by military force. More than one hundred thousand of the revolutionists were slaughtered, and the uprising was crushed out in blood. The aristocracy was everywhere victorious.

"Hohen": High—"Zoll": Tax—In English, "Big Grafters"

"One very quarrelsome Junker family with estates in Brandenburg began to come forward in this period—the Hohenzollerns. The meaning of their name is quite significant, though not often noticed. 'Hohen' means 'high.' The next syllable, 'zoll,' is merely the word 'toll,' or 'tax.' The name as a whole is a plural noun, meaning 'high tax-takers,' or, freely translated into plain English, 'big grafters.' This cognomen should have been adopted by the aristocracy all over Germany, because it expresses in a single term the essence of Junkerism, and is thus calculated to save thought. Thus, when you see Mr. Hohenzollern coming you must at once either pay him an 'indemnity' or prepare to fight.

"Unless we take into account the foregoing sociological and economic facts the German Reformation cannot be understood. The religious movement had no independent history of its own. It was cut through by the uprisings of the peasantry, while the new church organization founded by Martin Luther was appropriated from the very start by the aristocracy and used to consolidate their power over the people. Unctuous and perfectly sincere ecclesiastical gentlemen solemnly informed their congregations and Sunday school classes that Lutheranism and the German translation of the Bible had been handed down from the celestial regions by God Almighty, amid the smoke and flame and thunder of Mount Sinai, in exactly the same way that the civil laws of Germany were handed down to the people by the Junker nobles and kings. Thus the people were diligently trained in the idea that religion comes 'from above,' which, of course, makes it imperative that they should 'look up.' And thus it is clear that aristocracy and orthodoxy are both founded on the same psychological principle of unquestioning submission to 'authority.'

* * *

"While scientific investigation of the Bible has been allowed to continue in Germany, and while the investigation has produced remarkable and brilliant results, the work has been permitted to go forward only in an academic vacuum, on the implied condition that professors will engage in no religious propaganda or educational work of a popular character. The professors may talk among themselves in the learned and respectable obscurity of polysyllabic jargon, but their views must not be aired in church; and the clergy must faithfully teach the orthodox Junker theory of the Bible.

"The rank and file of the German people know nothing about what has been taking place in German theological seminaries. Even the professors of Biblical science themselves, compelled as they are to work in an atmosphere of aristocratic distrust and interference, have not succeeded in solving their problem. The impression has gone out that they are busily engaged in the destruction of religion. The truth is that they have dynamited the orthodox theory of the Bible and have gone a long way toward making religion safe for democracy. Their task has been accomplished in spite of the steam roller."

With the Scientists and New Inventions

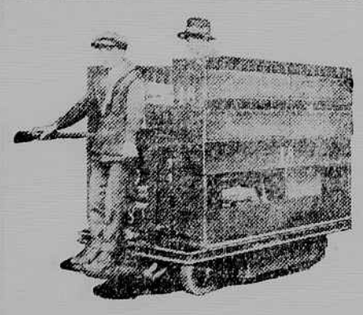
A Postoffice on Wheels

A TRAVELLING postoffice to deliver mail to the various departments of extensive industrial plant, replacing messengers and pneumatic tubes, is now being used by an East Pittsburgh electric manufacturing firm, according to "The American Machinist," which writes:

"This plant covers a large area, and mail is collected and delivered on two floors; to avoid confusion and delay a travelling postoffice was devised which makes six trips every working day. For this purpose an electrical industrial truck was selected, and on both sides a number of compartments were constructed similar to pigeonholes in a small postoffice. At one end of the vehicle a sorting table was installed, and a space was left under the shelves to receive large packages.

"The portable postoffice requires about an hour to make its round of deliveries and collections. Sorting of mail matter proceeds while the car is on its route through the plant, for the clerk has no responsibility concerning the operation of the little truck; that is intrusted to a young man who has no other duties.

"It is estimated that a saving in time and labor of no less than 50 per cent has resulted from the installation of this novel system, which displaces the pneumatic tubes and the staff of messengers that were needed."



The Postoffice on Wheels
—From *The American Machinist*

German Methods of Meeting the Deadly Tanks

HOW the Germans oppose the tank is a question that has received little reply in this country. However, the Germans have recently been exhibiting a tank in running order in Berlin, and in view of the report that the British lost over a hundred tanks at Cambrai, apparently the Germans have succeeded somewhat in their means of defence.

Some idea of these schemes is given in the following translation of a general order captured from the group of armies of Caudry, in France, says "The Scientific American":

"Obstacles: Trenches of a minimum width of from 13 to 16½ feet and a depth of at least 10 feet, also very thick mud, constitute very serious obstacles against tanks. Freshly ploughed land or barricades are easily crossed.

"It is not worth while constructing obstacles; it is preferable to attack.

"Methods of Attack: Tanks on the march should be attacked by artillery before their entry into action, even if there is not a great chance of hitting them. The essential thing is to forbid the enemy infantry to follow them; it is necessary that the enemy infantrymen fear the zone over which the tanks are advancing.

"To attack the tanks themselves the only reasonable method is to place the cannon in the advanced zone of the battlefield so that they may be able immediately to put the tanks out of action by direct hits. Every shot which hits the mark kills several men of the crew and often sets fire to the tank. The artillery sections which are held in reserve back of the front do not know what is going on, and in general arrive too late to be of use.

"The cannon, in principle, should be placed far in advance; thus the enemy is not able to surprise us.

"The commander of the front line troops should be responsible for the placing of anti-tank cannon. Pieces mounted on auto trucks are very useful if the roads are good.

"Infantry: The line of battle must not be opened, except to allow intact tanks to pass; the troops may seek cover, but they would not fall back. It is necessary that the tanks should be put out of action back of the line. The main thing is to repulse the enemy infantry. Several posts should be detached behind the front for the defence against the tanks.

"Armament: The most efficacious weapon against the tanks is the armor-piercing bullet. It is feared by the crews of the tanks, because it pierces the armor and produces at the same time a great flame, which frequently sets fire to the fuel reservoir.

"The best method of attacking a tank is from the rear, because it is not easy for its crew to fire from behind, and because the rear is the part least protected. Street fighting against the tanks is very favorable to the infantry; the troops shelter themselves in the houses and let the tanks pass, and then open fire with machine guns and rifles from close range.

"Hand grenades, employed one at a time, are useless. It is necessary to employ a concentrated charge (several cylinders grouped around a central grenade), and throw it under the tank; but this is not easy to do.

"Light trench cannon (minnenwerfer) are efficacious, when they are fired from a feeble angle; good results have been obtained by the fire of isolated pieces.

"In general, the tactics to employ against tanks must be made the object of theories and practical experience; the tanks will thus lose their terrifying effect."

Electricity for the Farm

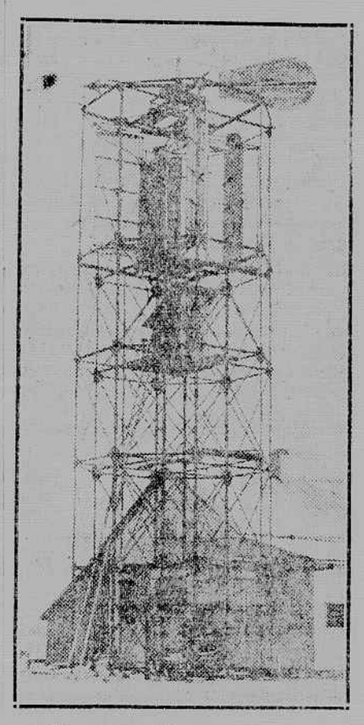
WINDMILLS to generate enough electricity for a farm, or even for a small municipality, are now in successful operation, according to "The Electrical Experimenter." Indeed, such plants can be made to generate hundreds of horsepower. This magazine thus describes a plant suited to a small farm:

"In operation the power vanes are each rotated on their respective bearing in such a manner as to expose them to the wind at the angle of greatest efficiency at every degree of the circle, while traveling with, across, and against the wind, there being about 30 degrees only of the circle when the vane comes against the wind edgewise to a degree where it is not efficient.

"Another feature of this design of wind power wheel is the automatic controllability. By means of a centrifugal two-ball governor or by a resistance type electric governor, the vanes are varied in their angle to the wind in case of high wind velocity so that the motion of the wheel is kept from running above a given speed. This protects both the power plant and machinery from unnecessary wear and strain.

"The automatic means for stopping the mill when the storage batteries are charged and throwing it in the wind when any given number of ampere-hours have been discharged, assure perpetual and abundant service without further expense or attention except oil for the plant once a year, distilled or rain water for the batteries and reasonable attention to the generator.

"The small farm type plant is automatic, starting and stopping according to the condition of the storage batteries. It charges the batteries about once a week on the average."



This windmill generates enough electricity to supply light and power to a large group of buildings
—From *The Electrical Experimenter*

Another Pitfall for the German "Sub"

A NET device to catch and sink submarines has been made and patented by a New York inventor and submitted to the Secretary of the Navy, according to "[illegible] World." The purpose of the net is to entrap and sink the submarine to a depth where the pressure of the water is so great that the hull of the U-boat will be crushed. In addition the device is expected to disarrange the mechanism of the submarine by affecting its riding angle, and to help locate invisible subs. Briefly the story runs thus:

"A net of any desired length and width is suspended at intervals by short, supporting lines. Heavy weights are attached to the lines, and these weights are in turn kept from sinking by pontoon floats or rafts. A sea anchor of conventional form is attached to the float or raft to withstand the drag of the float.

"When a submarine strikes one of the nets it carries the obstruction forward. As the impetus of the submarine draws the net taut, causing it to start to drag the pontoon rafts, the resistance of the sea anchors pulls out the latches, and the weights are allowed to sink. As the weights when released are aft of the centre of the submarine, they pull the net over the undersea craft so as to totally envelop it, while the weight exerted tends to tilt the submarine and so disarrange its interior mechanism and render it unmanageable.

"As submarines are normally of a weight closely approximated to that of the water they displace, they are ill prepared to resist an attack of this sort, especially as the crew of the submarine cannot locate submerged nets nor determine the position of the vessel itself while the periscope is submerged."

* * *

War Taps the Resources of Color Photography

COLOR photography, as yet by no means perfected, is nevertheless being used by the British for military purposes, says "The Aeroplane" (London). Professor Pope, speaking recently at the Royal Institution, said that Allied photographers are now using plates sensitive to the several colors of the spectrum, and that during the past year or two important developments have taken place in that type of photography which cannot be publicly discussed at present.

* * *

A Simple Safety Device for Skips Handling Men

IN HOISING or lowering men at the mines of the Mogollon Mines Company, formerly the Ernestine Mines, Mogollon, N. M., a safety attachment is used on the skip, built by the Denver Engineering Works Company, of Denver, which prevents jack-knifing in case of an accident that would result in the skip leaving the rails and tending to turn over. The device consists of an eye-bolt attached to the under side of the skip near the bale, through which a hook can be fastened from a chain attached to the bale. It is only while men are being hoisted that the device is used, as the chain is, of course, so placed as to be easily disconnected when ore is being handled, so that the skip can go into the cradle for dumping.—*Engineering and Mining Journal.*

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Luring Back Sunken Ore

THE use of powerful magnets to recover materials sunk in water is interestingly reported by "The Scientific American" in the case of a barge loaded with about 420 tons of sand-cast pig iron which was sunk in the Tennessee River near Paducah, Ky. It seems that—

"the iron was strewn along the river bottom for a distance of 100 feet or more, free of the barge." The insurance company paid some $10,000 to the shippers of the iron, and in order to recover some of this it began salvage operations. For this purpose a barge carrying a derrick and power hoist was employed, together with a powerful electromagnet. The bottom of the river was explored with the electromagnet and in time over 90 per cent. or approximately four hundred tons, of the iron was recovered. In the meantime the price of the iron had gone up appreciably, with the result that the recovered cargo was sold for $16,000, while the total cost of recovering it, including the purchase of the magnet and other equipment, did not exceed $4,000. Thus the insurance company realized $2,000 profit on the transaction. The magnet used was 43 inches in diameter, and of the waterproof type."

* * *

A Face Shield With "Window Lights"

A FACIAL windshield for motorcyclists is now in use in England, according to "Popular Mechanics." The new device, which is in the form of a head screen with "window lights" in the front, is worn like the headpiece of a diver's

suit. "The front portion projects in the form of a wedge, its sides being fitted with celluloid panels through which the wearer obtains an excellent view. The remainder of the article is made of loosely woven wire mesh."