be if we treated patients afflicted with it simply by driving them about here and there. The disease is increasing because we take no measures for keeping it out or for mitigating it. We do not even have a national law on the subject. A bill was framed several years ago, but was never even introduced into Congress. When our people realize that we are letting a curable disease get a foothold among us simply because we are unreasonably hysterical about it, some action will be taken. There is now no doubt, Mr. Shoosmith assures us, that leprosy is curable until too far advanced:

"In leprosy, as in other diseases, there are degrees of severity, depending largely on climate, the general condition of the body, manner of life, and diet. When these conditions are favorable, the disease, in some individuals, may remain comparatively mild and gradually die out. In one recorded instance the specific bacilli which had been found in the early stage of the disease completely disappeared."

EASY BRICKLAYING FOR RIVER WALLS

WHEN A RIVER is washing away its banks and eating up valuable land at a rate that alarms the owner, he sometimes builds a brick or stone retaining wall, at considerable expense, only to have the stream undermine it, send it toppling into the water, and calmly go on eating away his real estate. The French have solved the problem by covering the threatened river bank with a coating of small concrete blocks or bricks, strung on wires. The brick sheathing is thus of a structure resembling that of reenforced concrete. The bricks protect the earth and the wires hold the bricks in place. Results are said to be very satisfactory. Moreover, the bricks may be made on the spot out of cement and gravelly sand, by portable presses, and a gang of four men can easily turn out in ten hours 1,000 to 1,200 bricks, which will be hard enough to



LAYING THE BRICKS.

use in five or six days. Mr. R. Bounin tells about it in La Nature (Paris, October 1). He says in part:

"The bricks weigh about ten pounds, and are pierced by two holes two-thirds of an inch in diameter for the passage of galvanized iron or copper wires, according to whether they are to be used in fresh or salt water. The holes are much larger than the wires, so that the bricks may be strung rapidly and set closely. "The bricks are get on follows: When the share have

"The bricks are set as follows: When the slope has been properly graded, the wire is cut into suitable lengths and the sections are secured at the bottom of the slope by fastening them to a cable made of three twisted wires. The attachment must be slightly loose, so that the wires may slide along the cable and assure the contact of the bricks.

"The first row of bricks should be laid horizontally. When the wires have been attached to the cable below they are



HOW THE BRICKS ARE STRUNG ON THE WIRES.

stretched above by devices called keyboards. Each crew of bricklayers consists of a thrower and his assistant, posted in the rear of the keyboards, and a layer, who stands either on the bricks or on a small scaffolding.

"The layer receives each brick on a broom and puts it in place with a small wooden mallet. When the lining has reached its proper height, the keyboards are withdrawn and the wires are joined into bundles which are firmly anchored.

"This system of protection has already received a number of applications, not only for the consolidation of the shores of rivers and canals, but for protection against advancing dunes.

"The flexible armor has been applied to the protection of about 1,500 feet of shore-line on the Sensée Canal, near Arleux, where the traffic by electric traction is very intense. Another application of interest is at Asnières on the Île des Ravageurs, where is situated the dog cemetery. It has also been adopted by the city of Paris for the protection of the shores of the basin of the Vaux Valley near Pontoise.

"The first application to dunes was made at Pointe de Grave, the lining, 150 feet long and 40 high, having been finished in June, 1908. As this gave satisfaction, the Forest Department adopted the same method of protection for the Soulac dune, which is much exposed to violent ocean gales.

"To build this sheathing, 900 feet long by 20 high, there were used 54,000 bricks, which were made of gravelly sand found in pockets along the dune. About 2,400 bricks were laid every ten hours.

"This work was completed on January 30, 1909, and has since successfully withstood several gales. It is to be prolonged by an extension of the same type 3,500 feet in length.

"An interesting and very important question is that of the influence of frost on the bricks. Experiments made in the laboratory of the École des Ponts et Chaussées have shown that after 25 freezings and meltings no cracks or breaks could be found on the surface of the bricks, which appeared to be perfectly sound on the exterior."—*Translation made for* THE LIT-ERARY DIGEST.

USE OF MAGNETS IN SURGERY—The employment of magnets to draw out needles from the flesh is a new feature of modern surgery—an extension of their use to recover minute steel chips from the eyeball. Says a writer in *Cosmos* (Paris, November 19):

"Large electromagnets have been used for more than twelve years in ophthalmology to extract foreign bodies from the eye —bits or needles of magnetic metals such as iron, nickel, or cobalt. Messrs. Theuveny and Raoult-Deslongchamps are using regularly and successfully a very powerful electromagnet to extract such bodies from lodgment in tissues other than those of the eye, using the x-ray as an aid. The metallic body is exactly located by means of two radiographs taken in two different planes. Then the foreign body, usually a needle, attracted by the magnet, raises the skin and forces its way through, adhering to the instrument. In a certain number of

PRODUCED BY UNZ.ORG ELECTRONIC REPRODUCTION PROHIBITED cases it is necessary to make an incision of very small size at the top of the cone formed by the skin, and the needle or other metallic body finds its way through this."—*Translation made* for THE LITERARY DIGEST.

December 17, 1910

DOING AWAY WITH THE WHEEL-BARROW

THE OLD-FASHIONED string of laborers with shovels and wheelbarrows is now being replaced by various mechanical devices, especially in the transportation of material about the buildings of a factory-plant. This seems to reenforce the advice of a writer in a New York evening paper some time ago, who told the workers that their only hope of saving their jobs in this age was in doing some form of work requiring thought, as no machine is likely to be devised that



THIS CONVEYOR REPLACES SIX LABORERS. It handles scrap at a nut-and-bolt works in Columbus, Ohio, and never asks for more pay.

can think. All purely mechanical labor, however, seems doomed to surrender sooner or later to the machine. In *Factory* (Chicago, December) Edward K. Hammond gives some striking instances of replacing the wheelbarrow with devices that do not draw wages. The object of it all is to "cut the non-productive labor pay-roll." Money is needed to improve the product; it should not be thrown away in paying non-skilled men to wheel junk about. After telling us of such a use of mechanical conveyors and chutes in a nut-and-bolt factory, where scrap was economically handled in this way, Mr. Hammond assures us that wheelbarrow men may be replaced in many another factory in much the same manner. Nearly all trucking and the like can be simplified if some study is given to the question of handling material.

Sometimes, he notes, it is not a question of equipment so much as rearrangement of machinery or of departments or of work in process, as in the plan adopted at the plant of the D. M. Goodwillie Company of Chicago. This factory makes boxes, and the lumber comes to the mill in planks. After the lumber has been sawed, instead of piling it on the floor or on a truck before taking it to the rip-saws, this handling is saved by grouping the rip-saws and the cross-cut saws in pairs. As the pieces are cut in lengths by the cross-cut saws, they are pushed across the bench so that they are in easy reach of the rip-saw operator. This man takes all of them, reaching in front of his machine, and saws them to the required width. Boys take the rip-saw pieces and hold them

on trucks ready for the next department. At least one handling of material is saved by this simple arrangement and a great saving in time is possible. Moreover, this method of handling the lumber enables the work to proceed much more uniformly than it ever did when each order was carried from one department to the next. In another woodworking factory where such an arrangement could not be made, the time and labor of handling small parts, Mr. Hammond tells us, were

cut to a minimum by installing belt-conveyors between the different machines.

"This factory turns out wood-backed brushes of various kinds, and small wooden parts are continually in process through the woodworking departments. Instead of rough-sawing the stock, tumbling it on a truck. carrying it to the next machine, and so on, the machines are arranged down the length of the department and the lengthwise and crosswise handling of the stock is done by belt-conveyors. These belt-conveyors are driven by power from the machines between which they carry the small parts and are homemade affairs constructed of canvas belting, upon which wooden strips are screwed crosswise.

"By planning machines a great deal of unnecessary labor can be cut out and often an overworked piece of equipment can be relieved by a study of the conditions. In one publishing plant, bags containing magazines to be mailed were originally sent down the elevator in wheeltrucks. They were then slid out to the wagon, but this method was not only slow and cumbersome but tied up the elevator service badly. Instead of this system a delivery chute has now been installed which runs from the bindery on the second floor to the wagon. Mailbags are thrown into this chute in the bindery and slide directly down into the wagon that is waiting in the street for them. Often gravity has to be an assistant in planning for a chute for handling materials. Such was the case in a cooperage factory. By installing a gravity lumber-carrier with



NO POWER IS REQUIRED

For conveying material down five stories by this carrier at a meat-packing plant of Morris & Co Gravitation does the work.

rolls . . . the handling of stock in this factory was greatly expedited. . . .

"In handling material from one story to the next, time lost in trucking was saved at one of Morris & Company's packing plants by the use of a conveyor shown in the figure. By arranging the rolls on this conveyor in a spiral chute goods can be sent by their own weight down the height of five stories easily and quickly with a minimum amount of handling.

"So any factory manager may well study time used by wheelbarrow men. He may find that by the purchase of equipment for handling material he can cut his non-productive labor cost in two, or it may be that by a simple rearrangement of departments or of machines a similar saving can be made which demands not an investment of money but of a little thought."