

A WHARF THAT WALKS

Strides Over Uneven Ocean Bed in Stormiest Weather.

An automobile wharf is one of the most recent inventions in motive apparatus. It is not only self-propelling but its method of progress is walking. Like some spindle-legged heron or flamingo, it wades out from the shore to whatsoever point the brain on its deck directs. Not only is it able to walk through the water, but, like Sindbad the Sailor, it carries a big weight on its back, and, strange as it may seem, the sea appears to have no dominion over it. Its method of doing things is so obvious that one wonders why it was never thought of before.

Through the courtesy of the Engineering Societies of this city a working model was recently exhibited by C. G. Norris, of England, in Room 823 in the Engineering Societies Building. It showed how the stiff-legged mechanism works. The eight legs are in two groups of four each. Each quartet carries a separate rectangular framework, one of which is square, and, being smaller, is inside the other. When the machine is to walk forward the four posts, spuds or legs of the larger are raised individually. This places all the burden on the second and smaller inside framework. The big frame, resting on rollers, is then pulled forward by lines to the full length of its stride. Its legs are then lowered and those of the inner framework are raised. This section is then carried forward ready for the next step.

The legs of the walking wharf are sticks of Oregon pine, as straight as nature can make them. There are never fewer than six of them, and there may be more, according to what is expected of the wharf. Each leg is independent in its action. Because of this fact the wharf can walk over the most uneven places and plant its feet as it will, regardless of the contour of the bottom. The platform may be of wood or steel, according to the requirements of the duty which it is to perform. This platform not only will carry the mechanism for lifting the legs and pulling the platform along on them after they have been carried forward, but it will support sea dredges, excavators, steam shovels, submarine rock boring and blasting machinery, rock breakers, diving bells, pile drivers, cranes, conveyors, caissons, dolphins and almost anything else that engineer or wrecker may want for work under the water or in salvaging a wreck. These it will transport into the middle of a river or harbor or through the surf to the side of a wrecked vessel.

With feet firmly planted, it pays no attention to what the wild waves beneath are saying, for the swirling, foam-flecked water flows between the widely separated legs as harmlessly as if they were so many isolated pipestems of rock. If the angry waves rise high, as they have a habit of doing, according to poets and writers of sea narratives, the platform can be raised higher on the legs after the manner of the man in the old natural philosophy who attempted unsuccessfully to lift himself over a stone wall by his bootstraps. The motive power for operating the legs and hauling forward or backward the different sets may be hand winches, compressed air, hydraulic power, steam, electricity or a gas motor.

This is no fanciful dream. The walking wharf has done the things claimed for it. It has been tested in three places in Great Britain. In 1905 work was begun for the improvement of the important fishing harbor at Peterhead, north of Aberdeen, Scotland. It was necessary to remove about 10,000 cubic yards of granite at a depth of 24 feet below high water. The contractor tried to get at this rock in every known way, but the sea was rarely calm enough to permit any boring from barges, and the position was so exposed that any slight change in the wind to seaward would quickly bring up a heavy sea, so quickly, in fact, that there would be no time to remove any apparatus to a place of safety. It was rarely calm enough for an ordinary barge to work, and the cost of doing all the work by divers was prohibitive.

This situation led to the invention of the walking wharf. Before it walked into the water skepticism reigned. It did its work so effectively, however, and was so novel that before it was moved away the railroads coined into shillings some of the curiosity displayed by arranging excursion parties to visit it. Five power drills were mounted on the platform. They were worked with compressed air conducted from the shore through a submarine hose. The holes were to be five feet apart, in rows separated by the same distance. The shaft was, therefore, arranged to move forward only five feet at a step. The holes were charged with eight pounds of dynamite each, and five holes exploded simultaneously beneath the stage without moving it. Sometimes the seas were so heavy that the waves broke over the platform, but it did not budge.

Then the wharf was taken to Dover, where it was set up on the shore and walked out to the spot where deepening of the harbor required some subaqueous blasting. Two walking wharves were constructed for the building of two breakwaters at Whitby. One of these, which had eight legs, each of which was worked by an electric motor, travelled 3,600 feet, or two-thirds of a mile, with an inexperienced

crew, at the rate of 310 feet in ten hours, its stride being ten feet. This was with flat feet on sand. When the crew became expert they marched the 140-ton machine ahead at the striking pace of ten feet in fifteen minutes. The motors operating the spuds, which is the mundane name given to the legs, were all attached to one switchboard, so that one man, like a brain, operated all the legs and worked the whole wharf. In going across the harbor entrance it was necessary to take it around a curve. It was swung around a lighthouse, to which were attached the electric cable and the hawser for the breeches buoy. The sea was frequently so rough that boats could not be taken alongside the platform, and the men were put on and taken off by means of a travelling basket and a buoy slung on a line.

Should New York plan a new submarine tunnel or another bridge it may be that one of these curious travelling platforms will be seen

said the tough, hunching up his shoulders very wickedly.

"Oh, no, sir," said the canvassman, frightened by the tough's size. "I only just wanted to warn you, sir, that it's a little dangerous to lean against the tent that way, as the elephant might kick you, sir."

"The tough snorted with contempt. "Drat yer elephant," he growled. "I'll clean out the hull show, elephant and all, if ye give me any of yer lip."

"The canvassman slunk off humbly, and a few minutes later went inside and told the boss. The boss, who weighed over two hundred and stood six feet six in his socks, chuckled and took up one of the enormous mallets that were used to drive in tent pegs.

"Show me where he's leaning," was all he said.

"The canvassman led the boss to the place where the tough's form made a long, oval dent

"Good!" I said. "And now, tell me, which parable do you like the best?"

"The boy, looking out over the green and pleasant Yonkers country, answered:

"I like the one where everybody loafs and fishes."

LEFT TO A WORSE FATE.

The business man was sitting in his office, thinking of starting for home, when a suspicious looking person came in with a leather bag in his hand.

"If you don't give me £5," said the visitor, coming at once to the point, "I will drop this on the floor."

The business man was cool. "What's in it?" he asked.

"Dynamite," was the brief reply.

"What will it do if you drop it?"

"Blow you up!"

"Drop it!" was the instant command. "My wife told me when I left home this morning to be sure and send up a bag of flour, and I forgot it. I guess it will take just about as much dynamite as you have there to prepare me for the blowing up I'll get when she sees me!"

He threw himself back in his chair and waited for the explosion, but it did not come.

"I'm a married man myself," said the dynamiter, and quietly slipped out.—Illustrated Bits.

HOW IT WAS.

Congressman Hobson, at a dinner in Washington, said of the Japanese spies captured in the Philippines:

"Their explanations are ingenious, but not quite satisfactory. Their explanation reminded me of young Jones.

"Young Jones was accosted in front of the Greensboro drug store by the minister, who said:

"Mr. Jones, I noticed that last Sunday you got up and left the church in the middle of my sermon. This pained me deeply. I hope you have some suitable explanation to offer?"

"Oh, yes, sir," said Jones, with an easy smile. "I thought you knew, sir, that since infancy I've been a somnambulist."

STATES READY TO HATCH

Arizona and New Mexico Picking at Territorial Shells.

Within a short time now two historic conventions will assemble in the Southwest to draft constitutions for two new states, Arizona and New Mexico. The gatherings will be held in Phoenix and Santa Fe, the respective capitals. After they adjourn the people must vote to accept or reject the constitutions proposed by the conventions. If accepted, they must go to Washington, to be approved or vetoed by either the President or Congress, before they can go into force. If approved, the territorial Governors will then call an election of state officers and Congressmen.

The statehood bill recently signed by President Taft, which admits these two new states to enter the Union, provides that the capitals of Arizona and New Mexico must remain at Phoenix and Santa Fe, as now, until 1926, and Arizona is to be allowed only one Representative in Congress, while New Mexico (whose population is twice as great) will have two. Of course, each of the new states will have two members of the United States Senate, the number allowed to each of the commonwealths of the Union, irrespective of population.

A further innovation in this statehood bill is a clause requiring that the schools of the new states shall be conducted in English. This is aimed at the Mexicans of Arizona and New Mexico, who ever since the cession of these territories to the United States have persisted in teaching their children Spanish only from generation to generation. Indeed, in many counties of New Mexico it is impossible to empanel a jury all of whose members can speak English, and an interpreter has to be employed in most of the courts to translate the testimony of English speaking witnesses. Further impetus to the learning of English is given by a clause prescribing ability to read, write, speak and understand that language as a necessary qualification for all state officers and members of the Legislature.

With all her glorious newness Arizona has recently put forward the contention that she has the oldest city in the United States. A bundle of old papers, discovered in a Spanish mission near Tucson, are said to establish the fact that under Charles I of Spain, later known as Emperor Charles V of the Holy Roman Empire, a colony settled at Tucson about the year 1555. According to this story, Marcos de Niza, who undoubtedly explored to the region in 1539, sent home such excellent reports of the country that orders were given for its colonization. The new settlement was isolated and soon forgotten, and when missionaries entered the country nearly a century afterward they were astonished to



USING THE SEA AS A LETTER BOX.

During those months in which vessels do not call at the island of St. Kilda, in the Outer Hebrides, letters are dispatched in the manne waterproof, buoyant case and cast upon the waters. Usually this remarkable mail packet is picked up on the coast of Norway, to be forwarded later to the Foreign Office. Four packages out of six reach their destination.

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wading across the harbor while borings are being made to test the character of the bottom. Possibly such a platform will be called upon to assist in solving the problem of placing a lighthouse on the Diamond Shoals, off Cape Hatteras, the graveyard of so many good ships. Had this apparatus been invented when the famous light was erected on Minot's Ledge, Boston Harbor, it possibly would have cut off three or four years from the five required for the erection of that great shaft. Standing on a half-submerged rock, work was done only when the wind, tide and sea were right. This combination occurs at that point infrequently. Such a platform would have solved this problem, apparently.

A LINCOLN STORY.

"Among Lincoln's circus stories," said a Cincinnati veteran, "was one about a Delaware tough.

"A circus, Lincoln's story ran, visited Newcastle, and the town tough turned out, the afternoon of its arrival, to see what sort of a circus it was.

"A canvassman was making his usual round, shouting, 'Off the guy ropes, there! Off the guy ropes!' when he came suddenly on the town tough, who was leaning against the canvas tent wall in the sun, smoking a corncob.

"Ye wuzn't talkin' to me, wuz ye, stranger?"

in the tent wall. The boss, chuckling again, fixed his eye on that spot, just below the tough's coat tails, where the dent was deepest, and, swinging the mallet twice round his head, he struck with all his might.

"There was a dull thud, a cry of pain and fear, and the tough leaped ten feet, and then off down the road as fast as he could run.

"What's the matter, Peleg?" the inhabitants shouted as he tore through the town.

"Been kicked by the elephant," he replied."

SPRING FEVER.

Fleet Commander S. C. Van Tassel, one of the heads of the National Association of Naval Veterans, said in Yonkers, apropos of Memorial Day and sailing:

"Sailing is hard work. Some men seem to think that a naval life is nothing but one long lounge in a deck chair, a blue sky above, a blue sea beneath, a cigar in one hand and a novel in the other.

"Such men are mistaken about the navy. They are as egregiously mistaken as a little Yonkers boy to whom I said one lovely Sunday morning in May:

"Have you ever studied the Bible?"

"Yes, sir," said he.

"Then, of course, you know all about the parables?"

"Oh, yes, sir."

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