

TO BUILD A BIG DAM.

GREATEST IRRIGATION RESERVOIR IN THE WORLD.

With Power Plants Also Under Construction Reclamation Project Will Cost \$3,200,000 and Will Supply Water for More than 200,000 Acres.

The secretary of interior recently let the contracts for the largest irrigation reservoir dam in the world.

It is to be called the Roosevelt dam. Near it is a new town, also called Roosevelt. Both are situated in Arizona, about seventy miles above Phoenix, on the Salt River, near its junction with Tonto Creek.

The dam is the main feature of one of the largest of the government irrigation projects. It is located in a canyon of the Salt River, just below its junction with the small tributary above named. It will be 270 feet high, 210 feet long, 105 feet thick at the base, and 16 feet wide on top.

This dam will create a lake twenty-five miles long and between a mile and a half and two miles in width—the largest artificial reservoir in the world. It will be constructed of "broken range cyclopean rubble" and Portland cement. The stone of which it will be built will be quarried from the walls on each side of the canyon. It is contemplated that work on the structure shall be carried on continuously day and night.

Free Electricity.

Electricity for night work will be furnished free by the government. The waters of the Salt River have been temporarily harnessed to an electric power plant, which develops 4,400 horse-power, by means of a turbine, under a head of 220 feet fall. The power thus developed runs a cement mill and does all the hoisting, drilling, digging, etc., for the construction of the dam.

The cement mill is located about 1,500 feet from the dam site, and has been equipped with all the most modern machinery for making Portland cement. Clay is taken from the ground within a mile from the mill, and one corner of the mill stands on a bed of limestone, which is one of the principal ingredients. Close at hand are the sand and other materials from which



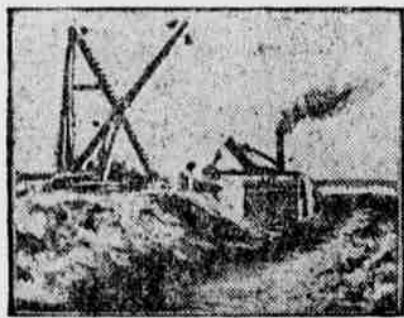
SCRAPERS AT WORK ON GOVERNMENT IRRIGATION CANAL.

bricks, as well as cement, may be made. The mill has a capacity of 300 barrels a day. It is estimated that 200,000 barrels of cement will be needed to build the dam.

An Important Adjunct.

Another very important adjunct to this big work is a wagon road which has been built from Roosevelt to Globe, the nearest town, forty miles distant. Another road, three miles in length, was built, leading to the timber in the Sierra Ancha, where about 1,000,000 feet of timber has been sawed for use in the work.

Some idea of the difficulty encountered in the construction of the road



STEAM DREDGE DERRICK.

to Globe may be inferred from the fact that in some places, where it traverses the Salt River canyon, it is cut through solid rock sixty to seventy feet deep, while Fish Creek hill is climbed at the base of vertical cliffs 600 feet high, where rock cuts sixty and seventy feet deep and fills of an equal height were necessary. Some portions of the road cost at the rate of \$25,000 a mile. During the short period while it was under construction 400,000 pounds of freight were hauled over it.

To Use Hydraulic Gates.

The waters of this Roosevelt dam will be controlled by the largest hydraulic gates ever built. With their controlling mechanism, they will weigh 800,000 pounds. When the reservoir is full, they will be capable of discharging 10,000 cubic feet of water a second. They will regulate the supply of water in canals fifty miles away.

The gates are to stand at the head of a 500-foot tunnel which has been

HOW CARNEGIE LIBRARIES ARE DISTRIBUTED.



MAP SHOWING DISTRIBUTION OF CARNEGIE LIBRARIES.

Because a generous man built a library which enabled him to read, Andrew Carnegie promised himself that, should he become rich, he would devote his lifetime to building libraries so that all might have the benefit of books.

He has built 1,352 libraries, scattered over every part of the earth, in every English speaking community, in New Zealand and New York, Texas and Scotland.

Only two States in the Union have no Carnegie libraries. They are Rhode Island and Arkansas. Illinois has 60 libraries, New York has 120, but this is because of the many branches built in New York City. Iowa has 54, California 46, Texas 20, Indian Territory 2, Arizona 3, New Mexico 2, Kansas 16, Nebraska 9, Indiana 39, Massachusetts 21 and Pennsylvania 34.

The number of library buildings built by Mr. Carnegie in the United States is 671, and these when finished will serve more than 18 per cent of the population. They represent an expenditure of \$29,807,980.

The amount given by Mr. Carnegie outside the United States is \$10,633,540.

driven through the side of the canyon, and through which the waters of the Salt and Tonto Rivers will be diverted while the dam is being built. It is estimated that the dam will be completed in about two years.

The excess water from the enormous reservoir will be sent through pipes into water wheels or turbines, and the power generated will be taken sixty to seventy miles distant to centrifugal pumps, by which other water will be raised to higher planes in the Salt River valley. It is estimated that each horse-power developed will irrigate ten acres, at a distance of sixty miles. An area of no less than 50,000 acres is to be reclaimed by this subsidiary power project.

The estimated cost of the dam and

larly perforated instead of being marked by dots and dashes. This tape can be placed upon another machine, which converts the perforations into printed words on telegraph forms at the rate of about 120 to 150 words a minute. The system is four or five times as fast as the Morse, and consists of three stages:

1. The telegram is copied on a machine resembling a typewriter. Paper tape runs through this and is perforated as each letter is struck.

2. The message, as it appears on the tape, is run at a very rapid rate through a transmitter, and an exact facsimile of the tape is produced at the other end of the wire.

3. The tape is put through a typewriter with automatic mechanism, driven by a small electric motor, and the message reappears neatly printed, lined and spaced.

This last stage may be described as being similar in effect to the placing of paper rolls of music in an automatic piano. Whereas in that case the perforations are the cause of the notes being struck and the music being produced, so in this instrument the perforated paper is the cause of the typewriter keys going down and the hammers containing the letters striking the telegraph form and producing letters and words.

One of the effects of the use of this instrument, provided it be found ultimately to come up to expectations, would be a great saving of time, as a wire would be capable of carrying four or five times as many words as at present, and fewer persons would consequently be required to perform the work. Any person able to operate a typewriter can transmit messages by the new system.

Verdict of the Coroner.

Records of the ancient city Gorgeana, founded in 1640, better known at the present time as York Harbor, Me., contain many quaint and unusual stories of the early life of the town.

At the entrance to York Harbor a bold promontory known as Stage neck extends some distance into the sea, from which formerly in stormy weather a temporary light in the form of a lantern hoisted upon an upright pole was displayed as a warning to mariners.

One dark winter night a sloop was wrecked on these rocks. A survivor on being questioned about the catastrophe said:

"The vessel struck, turned over on her side and the skipper and another barrel of whisky rolled overboard."

The local coroner was summoned and this somewhat startling verdict was returned:

"We find that the deceased fell from the masthead and was killed; he rolled overboard and was drowned; he floated ashore and froze to death and the rats ate him up alive."—Harper's Weekly.

Ready for Him.

"Good morning, sir," began the long-haired visitor with the roll of manuscript. "I see you've got your window open; that's a sign that spring is here. Now—"

"No," interrupted the editor, glaring at him significantly. "It's a sign that the spring poet is here."—Philadelphia Press.

Not Exactly Truthful.

Bacon—Did you buy any fiction on the trains when you were south? "Didn't have to buy any. They gave it away. All the roads give away time-tables, you know."—Yonkers Statesman.

To meet a hearse is a sure sign of death. A live man never rides around in a hearse.

DEVICE TO COUNT COINS.

Machine Does the Work and Takes the Place of Trained Brains.

Almost everyone, from the millionaire of Wall street down to the humblest bootblack, has felt the necessity of making money quickly and easily, the counting of it being a matter of secondary importance. However, the coin of the realm was produced, whether in the form of bright copper pennies or \$1,000 gold certificates, it would seem like throwing the gauntlet down to fate to object to counting them. Yet there are times and conditions when men long for a machine capable of counting their money for them. Hence the electric motor coin counter and wrapping machine.

The object of such a device is obviously to facilitate the rapid and accurate counting and bundling of coins of all descriptions, from pennies to dollars, since there are many lines of business which necessitate the employment of a large staff of clerks whose sole duty heretofore has been the performance of this laborious task.

The machine counts and wraps coins at the rate of seven every second, or 420 coins every minute and does this continuously as long as the motor runs and coins are fed into the hopper. The coins are wrapped compactly at the rate of from eight to twelve bundles per minute, according to the size of the coins.

Since an expert is enabled to count and wrap only fifty coins a minute manually, it will be seen that the machine will do at least as much work as eight men.

It is true that each machine requires an operator, whose work consists of a mere cursory examination of the coins to see that there are no plugged pieces, iron washers and lead money mixed with good money. The speed of the machine is limited only by the ability of the operator to detect the spurious coins. When the machine is in operation the coins are laid upon a table to facilitate examination, when they are dropped into a hopper, whence they slide through a conduit down into the active mechanism, where they are pushed into a row.

As the coins reach the wrapper a roll of paper is fed by three driving rolls placed around the bundle of coins. By a rolling motion the paper is wrapped around the coins twice, when it is cut off by a V-shaped knife. The next and finishing process is turning in the projecting edges of the wrapper, which is done by means of crimpers, drawing the edges in opposite directions and finally turning out a smoothly rolled package held firmly in place without the use of paste.—Omaha Bee.

FIGHTING ORANGE WORM.

Mexican Growers Burn Infected Trees and Fruit.

The measures recommended by the commission on agricultural parasitology for combating the plague of orange worms, are being carefully followed now by orange growers of the Yauatepec district, Morelos, says the Mexican Herald, who have seen the splendid results obtained in other districts where the same plague made its appearance.

In many of the haciendas of the district big furnaces have been constructed to burn all infected oranges and trees, which, so far, has been found to be the surest means to destroy the germs of the plague. Another means followed is the sanitation of the fields by the sprinkling upon the ground and plants the solutions recommended for this object.

It is expected that if all orange raisers of the district take good care of their plantations and accurately follow the instructions of the commission on parasitology the plague will promptly and completely be stamped out.

Orange growers of several districts of Morelos are those who have been troubled most by this plague. On more than one occasion their crops have been greatly reduced by the plague. The same plague made its appearance in Sonora some time ago, but there it was successfully combated and stamped out. At the same time orange growers of that region have been making efforts to improve the quality of their fruit and they are meeting with success.

At present Sonora oranges are being sold almost all over the country, not only because of their good quality, but because of their low price. The crop this year, in fact, has been so abundant in Sonora that in Hermosillo and other big cities of the State oranges are being sold at 3 cents per dozen, and the best quality at 5 cents per dozen. Large quantities of oranges are also being exported to the United States, where they find a good market.

Pitched Lower.

In the course of her first call upon one of her husband's parishioners, young Mrs. Gray spoke feelingly of his noble, generous spirit.

"He is as nearly an altruist as man may be," she said, proudly and affectionately.

"Is he an altruist?" said her hostess, with mild surprise. "I thought from the tone of his voice that he probably was a base."

THINK OF IT!

This Pretty Matron Had Headache and Backache, and Her Condition Was Serious.

PE-RU-NA CURED



MRS. M. BRICKNER

99 Eleventh Street, Milwaukee, Wis.

"A short time ago I found my condition very serious. I had headaches, pains in the back, and frequent dizzy spells which grew worse every month. I tried two remedies before Peru, and was discouraged when I took the first dose, but my courage soon returned. In less than two months my health was restored."—Mrs. M. Brickner.

The reason of so many failures to cure cases similar to the above is the fact that diseases peculiar to the female sex are not commonly recognized as being caused by catarrh.

Catarrh of one organ is exactly the same as catarrh of any other organ. What will cure catarrh of the head will also cure catarrh of the pelvic organs. Peru cures these cases simply because it cures the catarrh.

If you have catarrh write at once to Dr. Hartman, giving a full statement of your case, and he will be pleased to give you his valuable advice gratis.

Address Dr. Hartman, President of The Hartman Sanitarium, Columbus, O.

Nearing the Finish.

"How long has the minister been preaching?" whispered the stranger, who had wandered into church and sat down near the door.

"About thirty years, I believe," replied the other occupant of the pew.

"That being the case, continued the stranger, "I may as well stay. He must be near the end of his discourse."

For coughs and colds there is no better medicine than Piso's Cure for Consumption. Price 25 cents.

Honey and Vinegar.

At a "stag" dinner the other evening an old bachelor gave the following toast: Woman, the morning star of infancy, the day star of manhood and the evening star of old age. Bless our stars—and may they always be kept a telephonic distance.

Mothers will find Mrs. Winslow's Soothing Syrup the best remedy to use for their children during the teething period.

Willing to Risk It.

"A fool and his money are soon parted, you know," said the stingy man who had a mania for quotations.

"Well," rejoined his good wife, "for the sake of having the money to part with, I wouldn't mind being considered a little foolish."

Permanently Cured. No fits or nervousness after first day's use of Dr. Kline's Great Nerve Restorer. Send for Free #2 trial bottle and treatise. Dr. R. H. Kline, Ltd., 631 Arch St., Philadelphia, Pa.

Find Petrified Grain.

The drillers at work in a new deep well at Junction City, Kan., are finding all sorts of odd things. Recently the drill penetrated a stratum of what appeared to be petrified rye. The grains were surprisingly like that cereal, and some one has suggested that an ante-glacial elevator or storehouse has been discovered.

You Can Get Allen's Foot-Ease FREE.

Write Allen S. Olmsted, Le Roy, N. Y., for a free sample of Allen's Foot-Ease. It cures sweating, hot swollen, aching feet. It makes new or tight shoes easy. A certain cure for corns, ingrowing nails and bunions. All druggists sell it. 25c. Don't accept any substitute.

Name something with two heads and one body. Ans.—A barrel.

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