

THE PROBABLY BEST AUTHENTICATED PICTURE OF COLUMBUS.

So many widely differing pictures of Columbus are now being published and painted upon banners for display that we republish a portrait of the great navigator which appeared in the *SCIENTIFIC AMERICAN* of May 9, 1891, in regard to which Mr. Clement R. Markham, the English geographer, submits some important particulars. In a most interesting and carefully prepared paper upon Columbus, which is reproduced in the September number of the *Proceedings of the Royal Geographical Society*, Mr. Markham amplifies the story of Columbus' life through the exhaustive local researches he has made in Italy and Spain. He found the portrait of which this is a copy in a private house at Como, where it has been carefully treasured ever since it was placed there by Paulus Jovius [Giovio], a contemporary of the great Genoese admiral. Mr. Markham says:

"We gather some idea of the admiral's personal appearance from the descriptions of Las Casas and Oviedo. He was a man of middle height, with courteous manners and noble bearing. His face was oval, with a pleasing expression, the nose aquiline, the eyes blue, and the complexion fair and inclined to ruddiness. The hair was red, though it became gray soon after he was thirty. Only one authentic portrait of Columbus is known to have been painted. The Italian historian, Paulus Jovius, who was his contemporary, collected a gallery of portraits of worthies of his time at his villa on the Lake of Como. Among them was a portrait of the admiral. There is an early engraving from it and very indifferent copies in the Uffizi at Florence and at Madrid. But until quite recently I do not think that the original was known to exist.

"It, however, never left the family, and when the last Giovio died it was inherited by her grandson, who is the present possessor. I was so fortunate as to see it when I was at Como, and also to obtain a photograph of it. Here we have the head of a venerable man, with thin gray hair, the forehead high, the eyes pensive and rather melancholy. It was thus that he doubtless appeared during the period that he was in Spain after his return in chains during the last years of his life."

A FOUR-FOOT WATER VALVE.

On January 1, 1893, the system of water supply and distribution within the limits of the city of New York will comprise over 710 miles of water mains. These are of cast iron with calked lead joints. They vary in internal diameter from 6 inches up to 48 inches, the latter being the largest size of distribution main. In the year 1893 it is proposed to greatly extend this service and to lay twenty-five additional miles of pipe. Part of this amount represents the substitution of new for old pipe; a part represents entirely new lines.

In the present system there are over 9,000 fire hydrants and 7,300 stop cocks or valves. We illustrate one of the latter, taking as typical a valve inserted in a 48 inch main in the upper part of the

city. This valve was built in Coxsackie, N. Y., by the Kennedy Valve Mfg. Co.

The valve comprises a cast iron shell, within which the gate moves up and down or horizontally, according to the way the valve is set. In the case illustrated, the movement is horizontal. The shell is in sections, with faced joints, and the parts are fastened with

eral terms a disk, somewhat wedge-shaped, so as to fit between the valve faces. At its upper end, assuming the valve to be set upright, the gate is eight inches thick. At its lower end it is four and one-half inches thick. These dimensions refer to its outer ring or zone. The inner portions are hollowed or cored out, so that the center portion is only two and one-half inches thick. The ring or face of the gate, which abuts against the composition seat within the valve, is also made of composition.

The gate is moved by a stem, $3\frac{1}{2}$ inches in diameter, passing through a stuffing box and provided with an external screw. This is attached by a transverse steel pin, $2\frac{1}{2}$ inches in diameter, to a pair of lugs on the gate. This allows a considerable amount of play to the gate, and avoids straining the stem. The nut which operates the screw is of composition. For the packing box, hemp packing is used. The cut shows the arrangement of gearing used to turn the nut.

The valve was tested as to its tightness by a hydraulic pressure or head of two hundred pounds to the square inch.

It weighs between eleven and twelve tons, and required a truck with three teams of horses to move it across the city from the river front, where it had been delivered by lighter.

Fair Logs.

Recently, says the *Pacific Lumberman*, the tug Rip Van Winkle towed down from Port Blakely to Tacoma the ten largest logs ever cut on Puget Sound for shipment in one consignment. The logs are to form part of the foundation of the State of Washington's World's Fair Building. All the logs are 122 feet long. The largest one is 43 inches square at the large end, the others being slightly smaller. This largest log contains about 1,500 cubic feet of timber, and weighs, computing at 48 pounds per cubic foot, something over thirty tons. The aggregate weight of the ten timbers is nearly three hundred tons.

One of the most interesting things about the timbers is the manner in which they will be shipped to Chicago. It will require a train of thirty-five cars to ship them across the continent, and only air brake cars will be used. The thirty-five are at the Edison shops, where ten of them are being fitted with "bunks," or cross pieces, on which the ends of the timbers will rest. It will take seven cars to carry each two logs, whose weight will be borne entirely by the first and last of the seven.

This arrangement is necessary to allow the middle five cars to swing out from under the timbers when rounding curves, their only use being to connect the end cars.

To load the timber on the cars a strong chute has been constructed at the end of the ocean dock. They will be hauled up out of the water by a Northern Pacific locomotive, and kept straight in the chute during the operation by means of a pile driver, to which their water ends will be attached with chains.

In all 174 logs will be shipped for the foundation, and the other construction material will include between 500,000 and 600,000 feet of lumber.

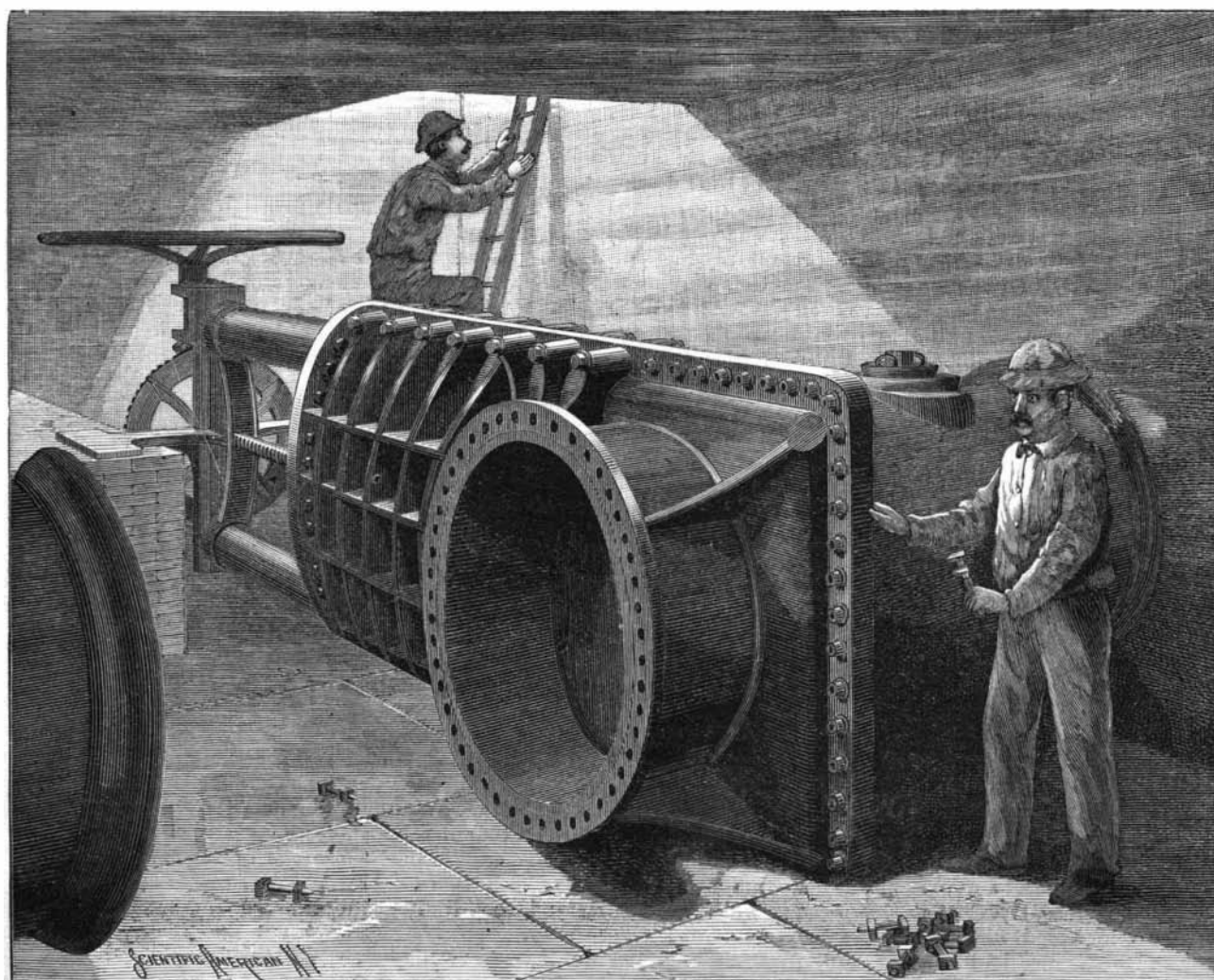


PORTRAIT OF COLUMBUS, BY SEBASTIAN DEL PIOMBO, RECENTLY DISCOVERED AT COMO.

bolts. Lead gaskets are introduced between the faces of the joint to supply packing.

Within the shell are the valve seats. These are made of the best quality of composition metal, and slope toward each other like a reversed wedge.

The gate which closes the valve opening is in gen-



MAMMOTH VALVE FOR WATER MAIN, NEW YORK CITY.