

AN IMPROVED WATER MOTOR.

This is a wheel which may be run when either partially or entirely submerged, is designed to be very efficient in proportion to the speed of the current, and has a very simple and easily actuated mechanism for throwing it into and out of gear. It has been patented by Mr. Benjamin F. Rathbun, No. 99 Winslow Avenue, Buffalo, N. Y., and its inventor reports having made some highly satisfactory tests of its efficiency. On a common shaft is a series of wheels, as many as desired, according to the width of the stream, there being on the sides of the wheels outwardly swinging gates adapted to close into recesses in the sides of the wheels when the motor is not in gear. The end wheels have gates on their inner sides only. The gates on one side of a wheel are connected together by chains, so that when one gate swings out to the current it pulls the next one open.

Opposite the gates are holes preventing excessive suction and permitting the current to enter and assist in turning the wheel, but the holes on the end wheels have their outer sides partially covered by deflectors. When the gates open, their inner edges strike against the teeth of ratchet wheels on the shaft, these teeth serving as abutments. Parallel with the shaft are rods on which are arms adapted to turn opposite the gates to hold them closed, but which may also be turned back of the gate hinges to permit the gates to swing outward, as shown in the illustration, which shows the gates as they would appear in a tide or two-way current, while in an ordinary stream the gates on the lower half of the motor would open while those on the upper half would close. The rods parallel with the shaft have end crank arms projecting through slots of two concentric wheels, the outer one of which has teeth to engage a pinion, and these wheels being movable in relation to each other. The gates are held normally locked by the parallel rods, but by pushing the pinion into engagement with the outer wheel the gates are permitted to swing into the current. The machine is thrown out of gear by a pawl or arm engaging the crank arms on the parallel rods. The motor is well adapted to be placed in a stream, to be run by the force of the current.

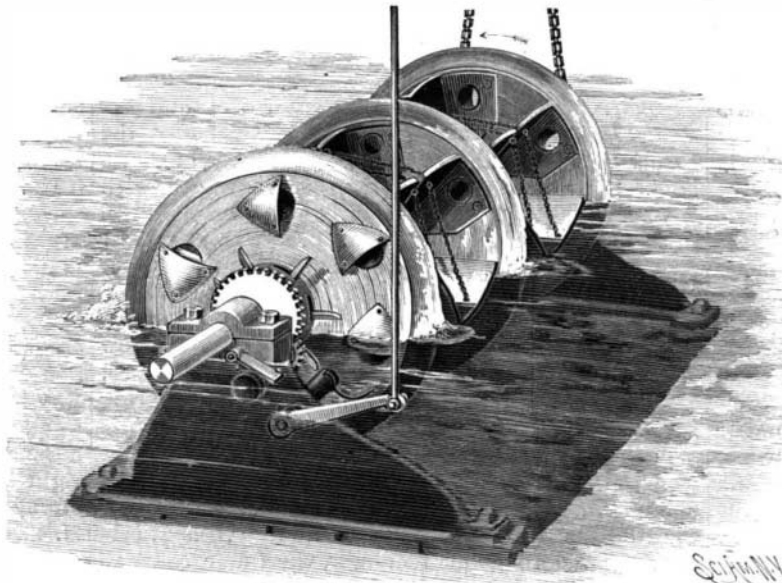
THE HOTEL MAJESTIC, NEW YORK.

New York possesses some of the finest hotels in the world, and to the Waldorf, the New Netherlands, the Savoy, the Holland, the Imperial and the Plaza, has recently been added the palatial hotel on Central Park West, between Seventy-first and Seventy-second Streets, the Hotel Majestic.

The structure is 150 by 204 feet and the height of the twelve stories is 165 feet. The building, a modified Renaissance structure, is made fire-proof and contains 600 apartments. An open exposed court 40 feet wide gives abundant light and air to all the rooms not fronting on the street. Nearly four million dollars were spent in the erection and furnishing of this hotel. The architect was Mr. Jacob Rothschild, who was assisted by Messrs. Reeves and Livingston.

Some of the special features of the hotel deserve attention. A covered driveway for carriages runs entirely through the hotel. The main entrance and foyer are marvels of beauty, being richly decorated in Renaissance designs. The grand salon is furnished in the style of Louis XIV, the dining room in the Empire style of decoration, etc. A spacious winter garden gives the effect of a conservatory. A novel feature is the arrangement of the

musicians' gallery, it being so constructed that the orchestra, which plays nightly, may be enjoyed by those in the main dining room, music room, grand assembly, and promenade halls at the same time. In summer the roof garden, occupying a surface area of thirty thousand square feet, offers the guests and their friends a nightly promenade concert, and by



RATHBUN'S WATER MOTOR.

day an unobstructed view of the city, the Hudson and the Palisades, while at the door is the Park. The Hotel Majestic is in one of the choicest residence districts, of the city. It fronts directly upon and overlooks the Central Park, with its lakes, trees, green swards, flowers, winding paths, and driveways. The views from the Majestic are wonderful and enchanting.

Liquid Glue.

Chloral hydrate.....	250 grammes.
Gelatine.....	400 "
Water.....	1000 "

The solution is ready in forty-eight hours, and is said to be excellent for mounting photographs.

The Fate of the Rural Town.

We have heard much in late years of the development of our mountain towns. We have thought the trouble to be in their elevation and the hardness of the soil; but Mr. Fletcher is now telling us in the April Forum that a similar fate is visiting the rural town in such States as New York, Ohio, Indiana, Illinois, Michigan, and Iowa. Indeed, the blight is peculiar to no one section, but extends to every part of the country. The population of the whole country has immensely increased, while scores and hundreds of the rural towns have steadily declined in population and wealth. In view of these facts, we must look for a deeper cause, and that cause we find in the new facilities for travel and transportation. The railway is an immense centralizing power. We are only beginning to awaken to the tremendous significance of this recently introduced material force in our civilization. In its presence all things pass and the whole world is made anew. The immediate results from the introduction of steam as a motive power were felt long ago; the remoter consequences are now being revealed in every cause and in every line of business. The change is nowhere more clearly seen than in the relation of the inland town to the commercial metropolis. When men reached the interior by horse power, by the ox team, or on foot, the rural town had a living chance to advance in population and wealth. For the industrial army which had moved into the wilderness or the open country, the rural village was the new base of supplies. The commissariat must go along with the columns. The large center was too far away. But the coming of the railway abridged distance. It brought the village ten or twenty miles away in touch with the great city, making it a sort of suburb. The outlying depot of supplies is no longer needed; the railway train has taken the place of the country storehouse. Does the change mean the destruction of the rural town? Not at all. The rural town is as important as ever, but in a new way. The railway took up the old base of supplies and carted it away as of no further use. The fortifications around it have

been pulled down, and the soldiers of industry who had occupied them have been drawn back to the main base. The industries now find their center, not in the rural village, but in the city a little farther away. What is taken out of the town is simply drawn back into the city. The fictitious importance of the rural hamlet has disappeared, while the agricultural value of the land remains. The agricultural resources of the country must forever be the bulwark of the city. The only peculiarity now is that the city reaches out farther, drawing its supplies, by the aid of steam, not only from an area of five or ten, but of a thousand or three thousand miles around. It draws from the cheapest market, without respect to distance.—Boston Standard.

The Trolley in Rome.

At the present time omnibuses and a few horse cars constitute the principal means of travel in the streets of Rome.

A concession has, however, just been granted to the Societa Romana degli Omnibus for the building of an electric road to run from the general post office to the principal railroad station in that city.

Grades of considerable size will have to be overcome. The overhead Thomson Houston trolley system will be adopted, and it is expected to have the line open for business on September 17 of this year.



THE HOTEL MAJESTIC, OPPOSITE CENTRAL PARK, NEW YORK CITY.