PLACING THE CAP-STONE UPON THE FINIAL OF THE SOUTH TOWER OF THE CATHEDRAL IN COLOGNE.

THE opposite cut represents the last act of the great ceremonies that have taken place during the celebration of the completion of the Cologne Cathedral.

The document of inauguration, portraits, coins, and several manuscripts were placed in a metal cylinder, which was inserted in the finial of the south tower, and finally the capping stone was lowered upon the finial amid the thundering of cannon, the ringing of bells, and the cheers of the multitude.

In our SUPPLEMENT 257 we gave two large engravings representing the architecture of the great building, with a

system, mounted a chair and delivered a short speech describing the company's methods. He said:

"Our system of cooking is not by the use of steam, but by superheated water. Everything you see upon the table here was cooked in our range. Some of the companies which have tried to use steam for cooking have been compelled to abandon the plan, as it has been found impracticable. Our plan in a few words is this: We send out from our stations, through pipes about three or four inches in diameter, a constant stream of water heated to the temperature of four hundred and thirty-five degrees. This hot water is conducted by smaller pipes into the house. Here it branches, and one pipe leads to a converter, where the hot water is converted into steam and distributed to the radiators and heaters in the building, making about five

tank, and thence to all parts of the house where it may be needed for washing purposes. When the range is not needed the valve can be shut, and the water passes directly to the tank through another pipe."

After this explanation the visitors were requested to make themselves at home, and no second invitation was needed. In the center of the room a long table was arranged upon which were displayed turkeys and spring chickens deliciously browned, roast beef done to a turn, broiled lamb chops, crisp and juicy, and corned beef, with vegetables of many kinds. Every dish on the table was cooked in the room in the oven of the company.

Despite the fact that this oven was ready for cooking anything from a loaf of bread to a joint of beef all the time the guests were in the room, no heat came from it, except on the top, where places for kettles for boiling, and a row of pipes for broiling purposes, were placed. The sides and door of the oven were cool enough to rest one's hand against.

The company also had a number of ovens ranged at the rear of the room which were not in use, so that the visitors could examine more closely their arrangement for cooking.

LABELS, TABLETS, OR SHEETS FOR ADVERTISING, ETC.

By A. McCaw, J. STEVENSON, and J. P. ORR, Belfast, Ireland.

RELATES to the manufacture of transparent paper or cloth to take the place of the glass advertising tablets at present used, and for imitating the gelatine covers employed for wrapping confectionery, and for other purposes. Thin hard glazed paper is selected, and on it is printed the letters or device required. If the tablet is to be transparent, the colors must be prepared from "transparent pigments." The letters or other parts which are required to be protected from the action of the varnish, and which are designed to show by reflected light, are printed with Kremitz white or

white lead. After the ground work has been printed in transparent colors, and the letters as described, the sheets are dried, and passed through a machine which contains a bath of copal, carriage, or spirit varnish. After a second drying they are passed through a solution of gum arabic and sulphate of aluminum, or other adhesive compound, and are then cut and made ready for affixing to windows. For opaque tablets the same process is adopted with the use of opaque colors, and furthermore fibrous materials may be treated to resemble woods, inlaid work, etc. Imitation gelatine sheets are merely varnished. The illustration shows the varnishing and gumming machine. A is the bath, B R the feed rollers, the lower one of which runs in the liquid, D D, traveling bands that lead the sheets to and from the rollers.

MANUFACTURE OF SPOT YARNS.

By G. A. J. SCHOTT, Bradford, England.

THE yarn is made of two or more continuous threads, and of a number of short detached pieces of soft slubbing or roving, so twisted together that at certain determined intervals globular or spheroidal knobs or protuberances are produced, all or some of which contain either a color or material, or be contained in the intervening space between such knobs. The yarn which forms the core of the thread is called the ground, the other continuous yarn or yarns the carriers, and the soft pieces the float. (2) A frame

or machine for manufacturing such spot yarn is shown in the illustration, which appears to be partly in elevation and partly in perspective view. It is similar, with the exception of the rollers and roller driving mechanism, to ordinary spinning and doubling frames. The rollers are shown diagrammatically below and in position in Fig. 1, the carrier rollers being driven continuously, and the ground and float rollers intermittently one at a time accordingly as the driving wheel is in gear, under the action of the cam-plate with either roller-wheel, or they are both stopped when the driving wheel takes an intermediate position. The distance between the centers of the carrier and float rollers must be

MIRROR FRAME IN WOOD CARVED AND GILT, BY FR. SCHENTHALER, VIENNA.—From the Workshop.

general history of the structure; and in SUPPLEMENT 259 we presented an interesting description, from the pen of a special correspondent at Cologne, of the remarkable historical procession that lately took place there, in connection with the final festivities.

COOKING BY HOT WATER.

A LARGE number of the members of the American Society of Civil Engineers lately visited the building occupied by the Prall Steam Heating and Cooking Company in One Hundred and Twenty-fifth street, near Eighth avenue, this city, where a lunch was prepared for them by the company. As each member of the society entered the place he was asked to walk back to the range at the rear of the room, where two plump turkeys were roasting.

After a few minutes Mr. W. E. Prall, the inventor of the

hundred times its volume in steam. Another pipe leads directly to the range.

"At the side of the range is a valve with an aperture the size of a needle, through which the hot water passes into a pipe having an inside diameter of about a quarter of an inch. This pipe is coiled around the top, bottom and two sides of the oven. A casting of iron is placed both inside and outside of this coil of pipe. Upon the top of the oven are stationary pots, and meats and vegetables can be cooked either in these or in ordinary pots. At the back of the oven a coil of pipe is arranged for boiling.

"All that is necessary when the oven is needed is to turn the valve, and in five minutes the oven will be ready. With a wood or a coal fire the greater part of the heat passes up the chimney, but with this system we keep all the heat about the oven, and the water, after doing its work there, passes with no diminution in heat to a boiler or