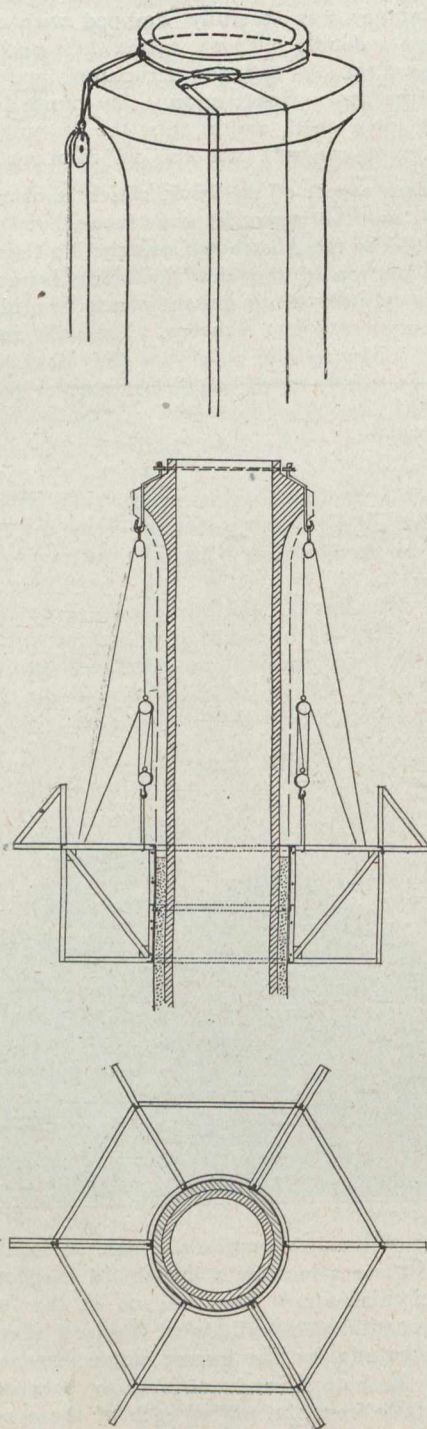


over a height of about 5 feet from the top of the cylindrical form, the form was then raised, and concrete was filled into the space between the form and the chimney, and closely tamped about the reinforcing steel. The next forenoon the

form were prepared for hoisting by loosening the bolts in the facing angle bars which formed the three joints. This allowed the form to swing a little free of the new concrete and allowed of easy movement.

An interesting feature of the preparatory work was the method by which the steeple-jack reached the top of the chimney. One of the largest cracks in the old structure ran from top to bottom, and this furnished a good place for driving in stout hooks. At the start, the steeple-jack climbed up a ladder resting on the roof of the power house, and reaching up on the chimney drove a stout hook into the big crack. From this hook he then hung a small block carrying a rope. This combination made it possible to hoist a second ladder, which was allowed to lap on the first ladder, to which it was lashed. Climbing to the top of the second ladder, the steeple-jack drove a second hook into the crack in the chimney, reaching up as far as possible. Putting a block and line on this second hook, he was able, after getting down to the power house roof, to raise another ladder, which was lashed to the second ladder. From the top of this third ladder he drove a third hook into the crack, and so extended his track another space upward, and so on. The ladders had hooks at the ends, which held them away from the chimney. They were held firmly in one direction by lashings to the hooks, and the combination was stayed by ropes carried round the chimney every fifteen feet. The ladders were taken down by reversing the process of erection.



Vertical section of chimney, jacket, and cylindrical iron form with staging.

asbestos and steel were extended farther up the chimney, and the form was hoisted a distance of 4 feet 10 inches leaving a lap of 2 inches on the concrete placed the day before. The concrete of the second day's work was placed in the afternoon, and was allowed to set until the next morning, when the form was again raised 4 feet 10 inches, and a new ring of concrete was placed that afternoon. The form and plat-

#### RECENT DEVELOPMENTS IN ELECTRIC LIGHTING AND HEATING OF RAILWAY CARRIAGES.

A very complete and elaborate electric lighting and heating equipment has just been fitted on a luxuriously appointed saloon recently built by the Metropolitan Amalgamated Railway Carriage & Wagon Company, and presented by them to the President of the Argentine Republic.

The electrical installation is on the latest "Stone" system, the system in use in practically every country in the world, in which the dynamo is driven from the axle, and a storage battery, carried under the coach, provides for the light when at rest. This has been developed in the present instance into a most comprehensive scheme to provide light, ventilation, air circulation, and heat for cooking and various other purposes; two large size "Stone" dynamos are fitted, and a double battery of exceptionally large capacity (giving 2,400 ampere hours storage). The saloon is brilliantly lighted by metallic filament lamps, mounted in fittings specially designed for this car, and arranged in the various compartments with beautiful effect. In addition to the lamps there are a number of independent and separately controllable electric ventilating fans, and an electric exhauster is fitted in the kitchen, to take all the hot air and fumes from this compartment straight out through the roof. Radiators for heating, hair curling iron heaters for the bedrooms, and cigar lighters for the smoking rooms are provided so that everything has been done for the comfort and convenience of the occupants of the car, and it is, in fact, a luxurious miniature travelling hotel.

The saloon is to be exhibited at the Centenary Exhibition, opening next month at Buenos Ayres, and will be in every way an exceptionally fine example of English design and workmanship.