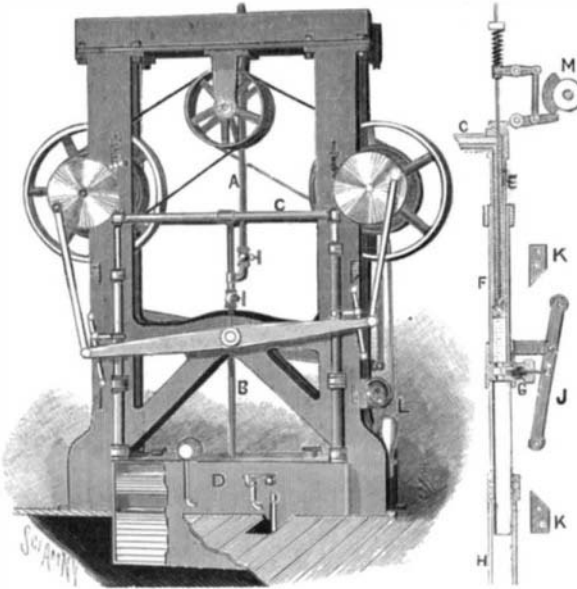


AN HYDRAULIC MOTOR OF NOVEL CONSTRUCTION.

The illustrations presented herewith represent a general and a detail view of a new hydraulic motor, which has been patented by Bernhard C. F. Wall, of 147 Hampshire Street, Buffalo, N. Y. The motor consists of a frame, supporting two opposite pairs of actuating devices. Each pair of actuating devices is provided with hollow plungers, *F*, sliding at their upper ends on guide and supply pipes, *E*, and at their lower ends in cylinders, *H*. The two plungers of a pair are connected by a walking-beam, provided at its ends with pitmen extending to crank-disks secured on shafts, *M*. In each supply-pipe, *E*, a valve is arranged controlling an opening from the pipe to the plunger. The supply-pipes are connected by a pipe, *C*, communicating with a valved pipe, *B*, from which a valved supply-pipe, *A*, leads to an overhead-tank. The pipe, *B*, at its lower end, is connected with a tank, *D*, divided into two compartments, the lower of which is partly filled with water from the upper by means of an injector. The valve in each supply-pipe, *E*, is carried by a valve-stem, and is normally held to its seat by a spring, in order to disconnect the corresponding pipe from its plunger. The lower end of the spring presses on a lug secured on the valve-stem and operated by a projection on the shaft, *M*, of the corresponding crank-disk. When either shaft, *M*, is rotated, its projection will operate intermediate links and levers to push the valve-stem upward against the tension of its spring, and move the valve from its seat in the pipe, *E*. When this occurs, the water in the pipe, *E*, passes into the corresponding plunger, *F*, to press against the valve, *G*, held at this time in a closed position. The pressure of the water against the valve, *G*, forces the corresponding plunger, *F*, downward, the valve acting as an abutment; and the plunger, in moving downward, swings the walking beam, so that the opposite plunger moves up at the time the valve in the supply-pipe, *E*, is closed and the valve, *G*, is open. The oscillating motion of the beam is converted by the mechanism previously described into rotary motion to drive the shafts, *M*.

In order to open and close the valve, *G*, at the proper time, the stems of the valve are pivoted to levers, *J*. Friction-rollers are adapted to move alternately into engagement with inclines, *K*, in order to swing the levers, *J*, and to open and close the valves, *G*. The inclines are so arranged that each valve, *G*, is operated just before the corresponding plunger reaches the end of its stroke, whereby the valve, which has been closed on the upward movement of the plunger, will remain closed until the plunger has nearly reached the end of its downward movement. The water under

pressure is constantly in action on one of the plungers to impart a uniform rotary motion to the shafts, *M*, connected by belt and pulley with a common driving shaft. An air-compressor, *L*, connected with one of the shafts, is used to force the water in the lower tank,



THE WALL HYDRAULIC MOTOR.

D, to the plunger supply-pipes when the overhead tank runs dry.

AN ATTRACTIVE DWELLING AND CONSERVATORY FOR \$8,500.

The dwelling house illustrated in this issue is located at Pelham Heights, N. Y., and it is claimed to have cost complete only \$8,500. The last February issue of the Building Edition of the SCIENTIFIC AMERICAN not only contains the elevation view, shown herewith, but plan views of the interior and a full description of the kinds of woods used in the different rooms and the other materials used in the construction and finish. In brief, the cellar is cemented, and is used for the laundry and furnace. The house is fitted for both gas and electric lighting. The kitchen is provided with a double oven range and an 80 gallon boiler.

One special feature of the SCIENTIFIC AMERICAN Building Edition is that it contains photographic reproductions of inexpensive country homes which have been actually built. This monthly journal is most useful to architects, builders and others in calling attention to the latest work in the building line. The subscription is \$2.50 per year.

Correspondence.

International Congress at Paris.

To the Editor of the SCIENTIFIC AMERICAN:

I have received a letter from the chairman of the committee in charge of an international congress, which will be held in Paris, in relation to the Exposition taking place there at present, and where all questions arising from recent inventions will be discussed, and, therefore, the associations of inventors, the associations of industrial artists, the inventors and the industrial artists individually and all those who are interested in the progress of inventions and of individual industrial arts, will be invited to assist at said congress.

I would, therefore, be much obliged to you if you would kindly let me know whether you have the names of any such associations, so that I may have invitations addressed to them by the French government.

HENRY E. GOURD.

Chambre de Commerce Française de New York.

May 26, 1900.

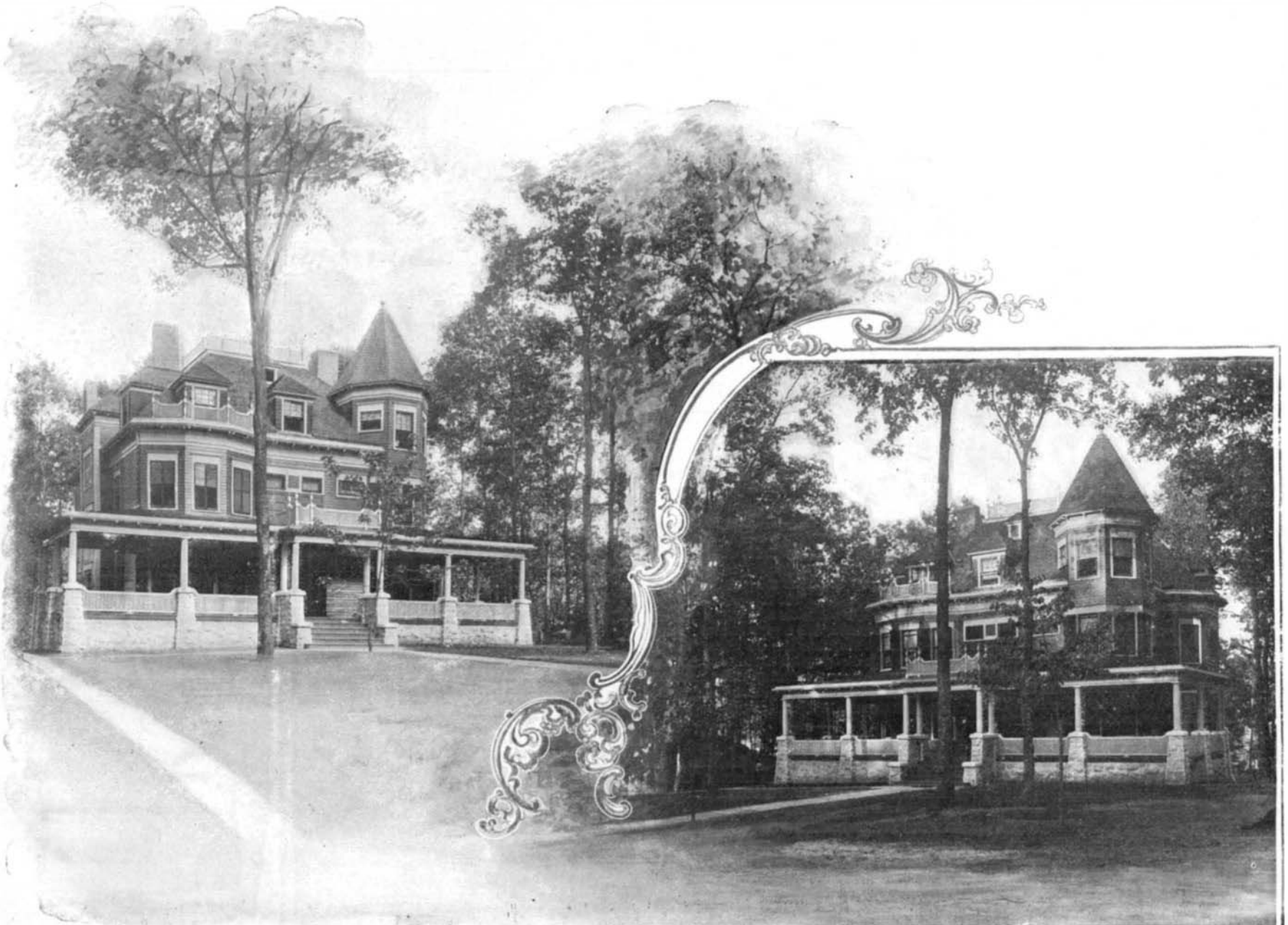
The Current Supplement.

The current SUPPLEMENT, No. 1275, is of unusual interest. The first installment of an important paper entitled "Outline of the Development of the American Locomotive," by George L. Fowler, begins in this issue. The series will be accompanied by sixteen engravings made from drawings which are to be exhibited at Paris. "Rails and Rail Joints" is accompanied by twenty-two engravings. "Alcohol as a Food" is by A. T. Cuzner, M.D. "The Electricity Building and the Grand Cascade of the Paris Exposition" are illustrated and described. "Egyptian Mummies of Children" is by W. S. Harwood. "The Eclipse at Wadesboro, N. C.," is described in detail. "The Twelfth Census of the United States" is by George E. Boos, Superintendent of Printing, and a tabulating card, showing the data for the electric tabulating machine, is given.

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MR. DOMINICK SMITH'S DWELLING AT PELHAM HEIGHTS, N. Y.—MR. A. M. JENKS, ARCHITECT.