

| | |
|---------------------|---|
| Zeitschrift: | The Swiss observer : the journal of the Federation of Swiss Societies in the UK |
| Herausgeber: | Federation of Swiss Societies in the United Kingdom |
| Band: | - (1963) |
| Heft: | 1435 |
| Artikel: | Skyscrapers challenged by subterranean Building! |
| Autor: | Terrier, René |
| DOI: | https://doi.org/10.5169/seals-694216 |

Nutzungsbedingungen

Die ETH-Bibliothek ist die Anbieterin der digitalisierten Zeitschriften auf E-Periodica. Sie besitzt keine Urheberrechte an den Zeitschriften und ist nicht verantwortlich für deren Inhalte. Die Rechte liegen in der Regel bei den Herausgebern beziehungsweise den externen Rechteinhabern. Das Veröffentlichen von Bildern in Print- und Online-Publikationen sowie auf Social Media-Kanälen oder Webseiten ist nur mit vorheriger Genehmigung der Rechteinhaber erlaubt. [Mehr erfahren](#)

Conditions d'utilisation

L'ETH Library est le fournisseur des revues numérisées. Elle ne détient aucun droit d'auteur sur les revues et n'est pas responsable de leur contenu. En règle générale, les droits sont détenus par les éditeurs ou les détenteurs de droits externes. La reproduction d'images dans des publications imprimées ou en ligne ainsi que sur des canaux de médias sociaux ou des sites web n'est autorisée qu'avec l'accord préalable des détenteurs des droits. [En savoir plus](#)

Terms of use

The ETH Library is the provider of the digitised journals. It does not own any copyrights to the journals and is not responsible for their content. The rights usually lie with the publishers or the external rights holders. Publishing images in print and online publications, as well as on social media channels or websites, is only permitted with the prior consent of the rights holders. [Find out more](#)

Download PDF: 10.01.2026

ETH-Bibliothek Zürich, E-Periodica, <https://www.e-periodica.ch>

SKYSCRAPERS CHALLENGED BY SUBTERRANEAN BUILDING! IN GENEVA SCIENTIFIC REALITY

The Swiss architect, Fritz Jenny, is about to become as famous as his compatriot, Le Corbusier.

Thanks to him we now know that scientific reality can beat fiction; that is to say, that it is possible to construct a seven-storey building on the surface — and then sink it into the sub-soil of a city.

This fabulous achievement, considered as some sort of wild wager, has nevertheless just been signed by Fritz Jenny, the spiritual (and technical) father of the most extraordinary new feat in the building world. It will provide space for 530 cars.

The man who, standing alone, challenged the skyscrapers in advocating building below ground, has won the day.

A bold formula

When Fritz Jenny, developing a 17-year-old idea (which he had already put to the test) submitted his project, his interlocutors gasped!

"Since building a seven-storey garage below ground is too costly, involving gigantic excavation work, besides a formidable cyclopean scaffolding to protect it against pressure from the earth, why do we not simply construct the frame of the building on the surface, in a single block and then sink it into the soil afterwards? As the building sinks, it will constitute its own protection as we excavate!"

While this technique was not wholly new (it is utilized in various public works for sinking caissons), the idea of applying it to a work of this size was decidedly revolutionary!

Classical technicians did not hide their scepticism, fearing that nothing could stop the building going on sinking, whilst others, on the contrary, feared that the caisson would not go down at all. But Fritz Jenny persisted, fought and finally succeeded in convincing everybody. His simple and bold idea swept away old accepted ideas; the Rive Garage did sink into the Genevese sub-soil and stopped exactly 2 cm. from the depth fixed.

The Swiss architect has thus opened up vistas which will start a new school of thought.

The whole neighbourhood had to be sounded!

If the construction of the caisson did not pose any big problems, this was not so for the excavation work. Due to the proximity of the lake, water was found 4 m. below the surface. This was no surprise; numerous soundings had been made throughout the quarter. The level of the neighbouring streets was taken at some 100 points so as to be quite certain that the soil was stable.

Gigantic pumps were used to evacuate the water whilst the earth, composed chiefly of clay, was extracted with the aid of giant mechanical scoops and cranes. During this time, on the unusual work-yard, a peripheral trench was built for the purpose of receiving the base of the cylinder, that is, of the caisson. So that the latter could be sunk, a metallic plate, to serve as a blade, was fitted under the circular wall, on which subsequently the garages were to be built. The weight of the building did the rest — 40,000 kg. per metre of wall!

A miraculous mud

The builders' big worry was: to avoid the friction of the cylinder against the earth's wall during its downward

passage which methodically followed the work of excavation. Mr. Fritz Jenny then had recourse to a wonder-mud — bentonite, which was injected to lubricate the wall just above the "blade".

Bentonite is a natural product which possesses the property of being solid when immobile and turning liquid as soon as it is in movement. Its composition and behaviour constitute the ideal lubricant for this kind of work.

This provisional and moving sheath was then removed to allow concrete to be poured in, by a process of compression, to ensure an overall rugged surface.

The Rive revolutionary garage, entirely built above ground, then sank into its cage at the regular rate of 15 cm. per day.

It is conceived like a giant screw thread. A spiral road, 800 metres in length, in two circulatory directions, serves for going up and down. It has 265 garages on each side, each large enough to take two cars.

The garage does not therefore consist of horizontal floors designed for parking cars. On the ground floor an ultra-modern cleaning station can handle more than 100 cars per hour.

A seven-storey building is also at present being built on top of the caisson which will not budge by a hair's breadth.

Architects the world over have shown interest in this grandiose achievement, unique of its kind, for a work of such a size. From Tokyo, Paris, New York, Canada, etc., they have come to look at it.

Moscow sent a group of experts to study Fritz Jenny's titanic work.

René Terrier.

THE ZURICH GROUP OF COMPANIES

in the United Kingdom and Eire comprise the

ZURICH INSURANCE COMPANY

BEDFORD GENERAL INSURANCE COMPANY LIMITED

and

BEDFORD LIFE ASSURANCE SOCIETY LIMITED

This Group can undertake all classes
of insurance business

The Group operate Branch Offices in all the major cities and towns and the United Kingdom Head Office is situated at:—

FAIRFAX HOUSE, FULWOOD PLACE,
HIGH HOLBORN, LONDON, W.C.1
Telephone: CHAncery 8833

The funds of the Zurich group
of companies exceed £200,000,000