

(No Model.)

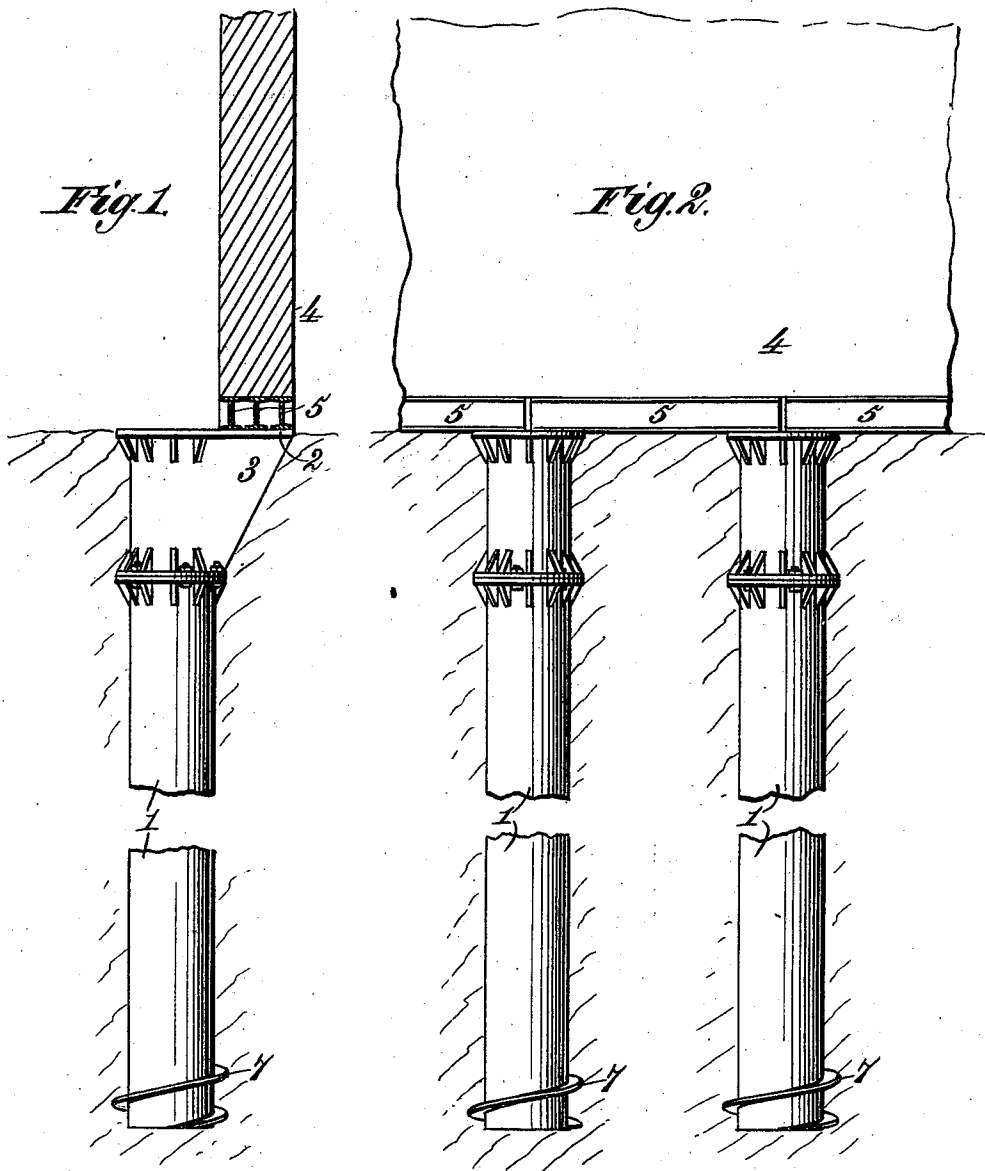
2 Sheets—Sheet 1.

R. S. GILLESPIE.

CONSTRUCTION OF SUPPORTS FOR BUILDING WALLS, &c.

No. 574,729.

Patented Jan. 5, 1897.



Witnesses:
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Albert B. Norris.

Inventor:
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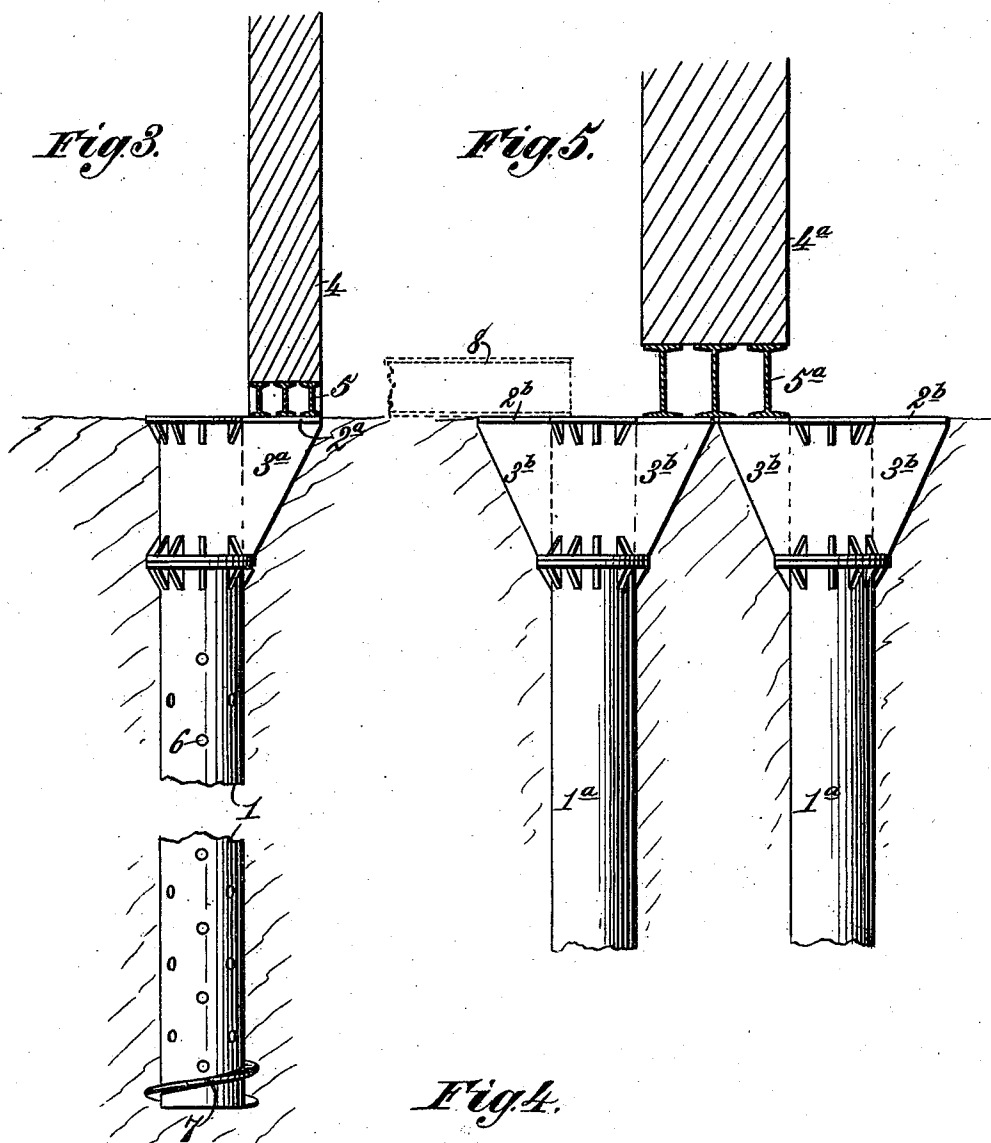
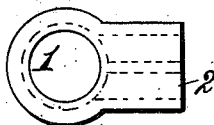


Fig. 4.



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UNITED STATES PATENT OFFICE.

RICHARD S. GILLESPIE, OF NEW YORK, N. Y.

CONSTRUCTION OF SUPPORTS FOR BUILDING-WALLS, &c.

SPECIFICATION forming part of Letters Patent No. 574,729, dated January 5, 1897.

Application filed July 10, 1896. Serial No. 598,724. (No model.)

To all whom it may concern:

Be it known that I, RICHARD S. GILLESPIE, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented new and useful Improvements in the Construction of Supports for Building-Walls, &c., of which the following is a specification.

This invention relates to that class of building-wall supports composed of iron or other columns driven or sunk into the earth a distance sufficient to render them susceptible of sustaining the wall of an existing building, as in Breuchaud's Letters Patent, No. 563,130, dated June 30, 1896, wherein the columns are driven or sunk directly under a building-wall or other structure through the medium of hydraulic or other jacks, which are subsequently removed and a pressure-resisting connection made between the wall of the existing building and the upper ends of the columns, whereby a subbase or subfoundation for the old building is provided and an excavation of greater or less depth can be safely made at one side of the latter for the erection of a new building or other structure.

The chief object of the present invention is to extend the usefulness of the Breuchaud system and provide new and improved means whereby the columns buried, driven, or sunk into the earth until they reach bed-rock or other firm substratum are susceptible of performing two functions, to wit: supporting the wall of an existing building or other structure and providing a strong, substantial, and solid foundation for the erection of a new building beside or contiguous to the old one.

To accomplish this object, my invention consists, essentially, in a support for an existing building and the erection of a new building composed of a column driven or sunk into the earth the required distance at one side of an existing wall and a rigid cantaliver or corbel formed on a section detachably secured to the upper end of the column and constructed to extend under the old wall, whereby the column serves as the foundation for a new building and a subfoundation or support for the wall of an existing building.

The invention is illustrated by the accompanying drawings, in which—

Figure 1 is a vertical sectional view transversely of the existing wall of a building, showing the improved column buried, driven, or sunk in the earth and in position to support the existing wall and constitute a solid foundation for the erection of a new building. Fig. 2 is a detail side elevation of the same, showing two columns in position. Fig. 3 is a view similar to Fig. 1, showing the column formed with orifices or perforations. Fig. 4 is a detail top plan view of one of the columns; and Fig. 5 is a detail sectional view transversely of the existing wall, showing a modified construction of the cantalivers or corbels. In order to enable those skilled in the art to make and use my invention, I will now describe the same in detail, referring to the drawings, wherein—

The numeral 1 indicates the pressure-resisting column, which is buried into the earth by driving or sinking it thereinto through the medium of any suitable means.

In sinking the column I prefer to employ the well-known water-jet, which loosens or softens the earth and permits a structure to be sunk under greater or less pressure. The columns may, however, be driven or sunk by a hydraulic ram or any other apparatus or machine suitable for the purpose.

The column is made in sections, which are successively driven into the earth, and they are preferably in the form of tubular cylinders; but obviously their cross-sectional form or shape may be largely varied without altering the spirit of my invention.

The upper section of the column is constructed with a cantaliver or corbel, which, as shown, comprises a horizontal, laterally-extended flange 2 and a plurality of webs 3 of approximately triangular form, which join the flange 2 and the column 1, and thus provide a strong and substantial brace which produces a powerful cantaliver or corbel adapted to support the superincumbent weight of a building.

The columns, constructed as described, are buried, driven, or sunk into the earth at one side of the wall 4 of an existing building in such manner that by a slight excavation of the earth directly under the wall the cantaliver or corbel may be arranged beneath such

wall for the purpose of supporting the same. It is preferable to interpose a series of iron or other beams 5 between the cantaliver or corbel and the extreme base portion of the existing wall, as represented in the drawings. The beams 5 are preferably ordinary iron I-beams; but they may be of any desired form or shape in cross-section, and they extend longitudinally of the wall, so that they are supported by the cantalivers or corbels of the columns which have been buried or sunk into the earth at one side of the existing wall.

The beams 5 may be of any required length; but in Fig. 2 they are represented comparatively short in that they only extend from one column to another; but obviously this arrangement may be altered by making them of such length that they will extend across the cantalivers or corbels of several columns.

In Fig. 3 the buried, driven, or sunk column 1 is constructed with a large number of transverse orifices or perforations, as at 6, which enable some preserving cement or composition to be passed through and about the exterior of the column to preserve the same in the earth. These orifices or perforations may be screw-tapped and closed by screw-plugs if desired. The orifices or perforations are also useful for the passage of water introduced into the column, whereby it is possible to lubricate the exterior of the latter, thereby facilitating driving or sinking the same into the earth.

The column 1, Fig. 3, is provided with a cantaliver or corbel composed of the flange 2^a and webs 3^a, the same as described with reference to Fig. 1.

The perforated column shown in Fig. 3 is provided at its lower end with a spiral flange or screw-thread 7, which enables the column to be screwed downward as the water-jet acts to loosen or soften the earth, thereby greatly facilitating the sinking of the column to a great depth or until it reaches bed-rock or other firm substrata or the depth necessary to enable it to successfully resist the pressure of the superincumbent weight placed upon it.

The preferred form or shape of the top surface of the cantaliver or corbel is best seen in the detail view, Fig. 4; but it will be understood that the form or shape may be varied to suit the conditions required without altering the spirit of my invention.

In the modification Fig. 5 the columns 1^a are buried, driven, or sunk perpendicularly into the earth in the same manner as described with reference to the other figures, and the uppermost section of each column is constructed with opposite laterally-projecting cantalivers or corbels composed of flanges 2^b and webs 3^b in such manner that two of the cantalivers or corbels will extend toward each other and support the beams 5^a of the existing wall 4^a, while the other cantalivers or corbels, one or more, may be utilized for

supporting the ends of girders, as indicated by the dotted lines 8.

The upper section of each column, which is constructed with the cantaliver or corbel, one or more, is provided with means whereby it can be bolted or otherwise attached to a previously driven or sunk column-section, as will be obvious without further explanation.

The spiral flange or screw-thread 7 (shown in Fig. 3) may be applied, if desired, to the columns represented in the other figures.

It will be seen that according to my invention the columns can be driven or sunk at one side of an existing building-wall and made to firmly and substantially support the same, while at the same time they constitute a solid foundation for the erection of a new building or other structure at one side of the existing building. The columns also render it possible to make an excavation of greater or less depth at one side of the existing wall without danger of the latter collapsing, as it will be firmly and strongly supported by the cantalivers or corbels on the upper ends of the driven or sunk columns.

Having thus described my invention, what I claim is—

1. A wall-support for an existing building-wall and the erection of an adjacent new building, consisting of a sectional, tubular column driven or sunk into the earth at one side of the existing wall and having its upper end composed of a separate attachable and detachable section constructed with a cantaliver or corbel and adapted to be attached after the main body of the sectional, tubular column is driven or sunk for the purpose of placing the cantaliver or corbel under the existing wall, so that the upper end of the attached section serves for the erection of a new wall, substantially as and for the purposes described.

2. The combination of columns driven or sunk into the earth at one side of an existing wall and having attached cantalivers or corbels extending laterally therefrom under said wall, and longitudinal beams inserted into the old wall and supported by the said cantalivers or corbels of the columns, substantially as described.

3. A support for an existing wall and the erection of a new building, consisting of a column formed with numerous perforations and driven or sunk in the earth the required distance at one side of the existing wall, and a rigid cantaliver or corbel detachably connected with the column and constructed to extend under the existing wall, substantially as and for the purposes described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

RICHARD S. GILLESPIE.

Witnesses:

ALBERT H. NORRIS,
THOS. A. GREEN.