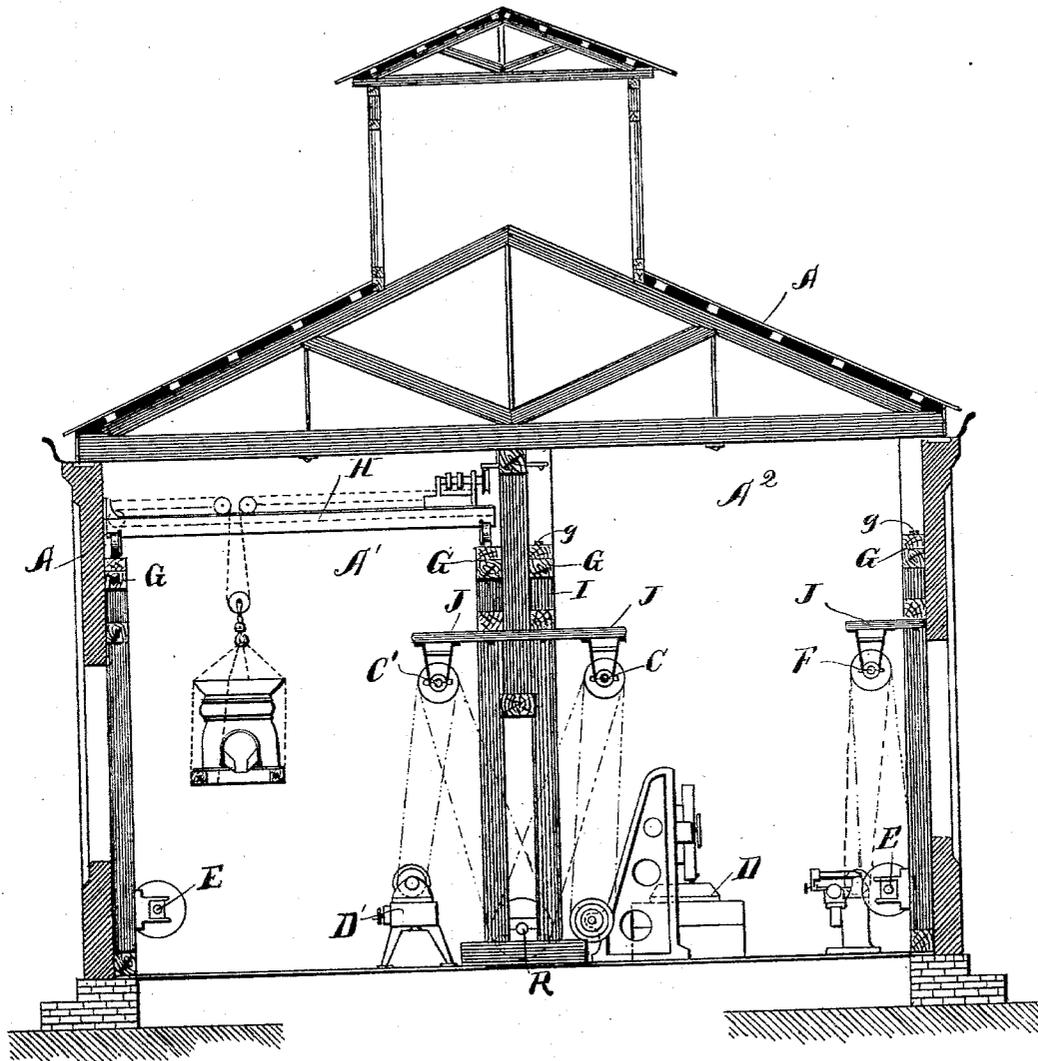


(No Model.)

P. W. GATES.  
MACHINE SHOP PLANT.

No. 597,828.

Patented Jan. 25, 1898.



Witnesses.  
*Samuel C. Hibben*  
By *Bunning & Bunning* (Attorneys)  
Inventor.  
*Philetus Warren Gates*

# UNITED STATES PATENT OFFICE.

PHILETUS WARREN GATES, OF CHICAGO, ILLINOIS.

## MACHINE-SHOP PLANT.

SPECIFICATION forming part of Letters Patent No. 597,828, dated January 25, 1898.

Application filed September 22, 1892. Serial No. 446,570. (No model.)

*To all whom it may concern:*

Be it known that I, PHILETUS WARREN GATES, a citizen of the United States, residing at Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Machine-Shop Plants, of which the following is a specification.

My invention is intended to be an improvement upon the present method of constructing machine-shops and the arrangement of the main shafting, counter-shafting, machinery, &c., and has for its object the providing of a simple, economical, and efficient machine-shop plant.

The invention consists in the features and combinations hereinafter described and claimed.

In the accompanying drawing the figure represents a vertical transverse sectional elevation of a building, showing the method of applying my improvements.

In illustrating and describing my improved shop I prefer to show it as applied to a building divided into two rooms; but it will be seen that with slight mechanical changes it may be applied to a large building having but one room extending in the direction of the longitudinal length of the building, so that I do not desire to be limited strictly to the structure shown and described in the drawing which is filed as a part of this specification.

In constructing my improved machine-shop and describing the drawing I use a building A, of the desired size and shape to give the requisite number of rooms and compartments. In the drawing I have shown the building divided into two rooms A<sup>1</sup> and A<sup>2</sup>, which extend, preferably, in the longitudinal length of the building. Arranged near the center of the building is a partition or wall which divides the building into two rooms or compartments, and near the center of the floor is arranged a main line of shafting B, adapted to drive the counter-shafting C C', arranged at or nearly overhead of the same, from which the usual machinery D D' may be driven. At the sides of the building and preferably a short distance from the floor are arranged the side lines or main shafting E, from which the counter-shafting F, nearly overhead the same, is driven and used for various purposes, principally for

driving machinery located underneath the same. Overhead the counter-shafting and adjacent to the walls of the building and arranged upon proper supports are beams or girders G, provided with rails g, upon which the overhead traveler H is arranged to be run back and forth through the compartments, as desired. I have only shown one of these overhead travelers in compartment A<sup>1</sup>; but it will be understood that it is the intention to use an overhead traveler in each compartment, so that placing machinery or moving the parts may be facilitated. In placing the operative machinery to be driven by the counter-shafting it is desirable that it should be arranged along the sides of the rooms and in the case of the center lines of counter-shafting at or near the center, thereby leaving the space between the machinery and directly overhead the same free from any cross-line of belting, so that any work to be operated upon may be moved freely from one machine to another or the entire length of the building, or from wall to wall of the same.

From this description and inspection of the drawing it will be seen that my invention provides a machine-shop in which all the usual overhead main lines of shafting are dispensed with, the same being located at or near the floor at or near the sides or center of the room, so that such lines of shafting can be more readily set up and attended to. It provides also for the more economical arrangement of the machinery, as the expense required for setting up the same is much less than usual.

In using my improvement in connection with a machine-shop having but one room the supports I, as shown, in the center of the building are cut away above the timbers J and the overhead traveler H made of sufficient length to span from one wall to the other main wall of the building. By this arrangement it will be seen that a center line of main shafting is provided, having center lines of counter-shafting arranged at or nearly overhead. The supports which hold the counter-shafting in place need not be a closed partition, but merely open-work, so that the material to be operated upon by the machine may be moved from one wall to the other wall of the building.

The principal object of my construction is that should it at any time be necessary to increase the width of the building this could be done very readily without rearranging any machinery or disturbing the main line of shafting in any way, and the overhead traveler can be arranged to span the space from wall to wall and still be adapted to transfer work from any portion of the floor to some other desired location.

For the purposes of this specification and claim I desire it to be understood that I consider the center partition to be one wall of the building—that is to say, the building as originally constructed extended from one wall A to the center of the building, afterward the compartment A<sup>2</sup> being added.

I claim—

A mechanical-shop plant, comprising a main line of shafting arranged at or near the floor, independent sections of counter-shafting arranged nearly overhead the same on proper columnar supports and arranged to be driven by the main line of shafting to provide a clear overhead and intermediate space with regard to the main line of shafting for the transportation of the articles, and an overhead traveler arranged above the counter-shafting on supports adjacent to the walls of the building so as to render available all space from wall to wall of the building, substantially as described.

PHILETUS WARREN GATES.

Witnesses:

LEWIS J. HEWES,  
SAMUEL E. HIBBEN.