

Walters & Shaffer, Column.

No. 87016.

Patented Feb. 10. 1869.

Fig: 1.

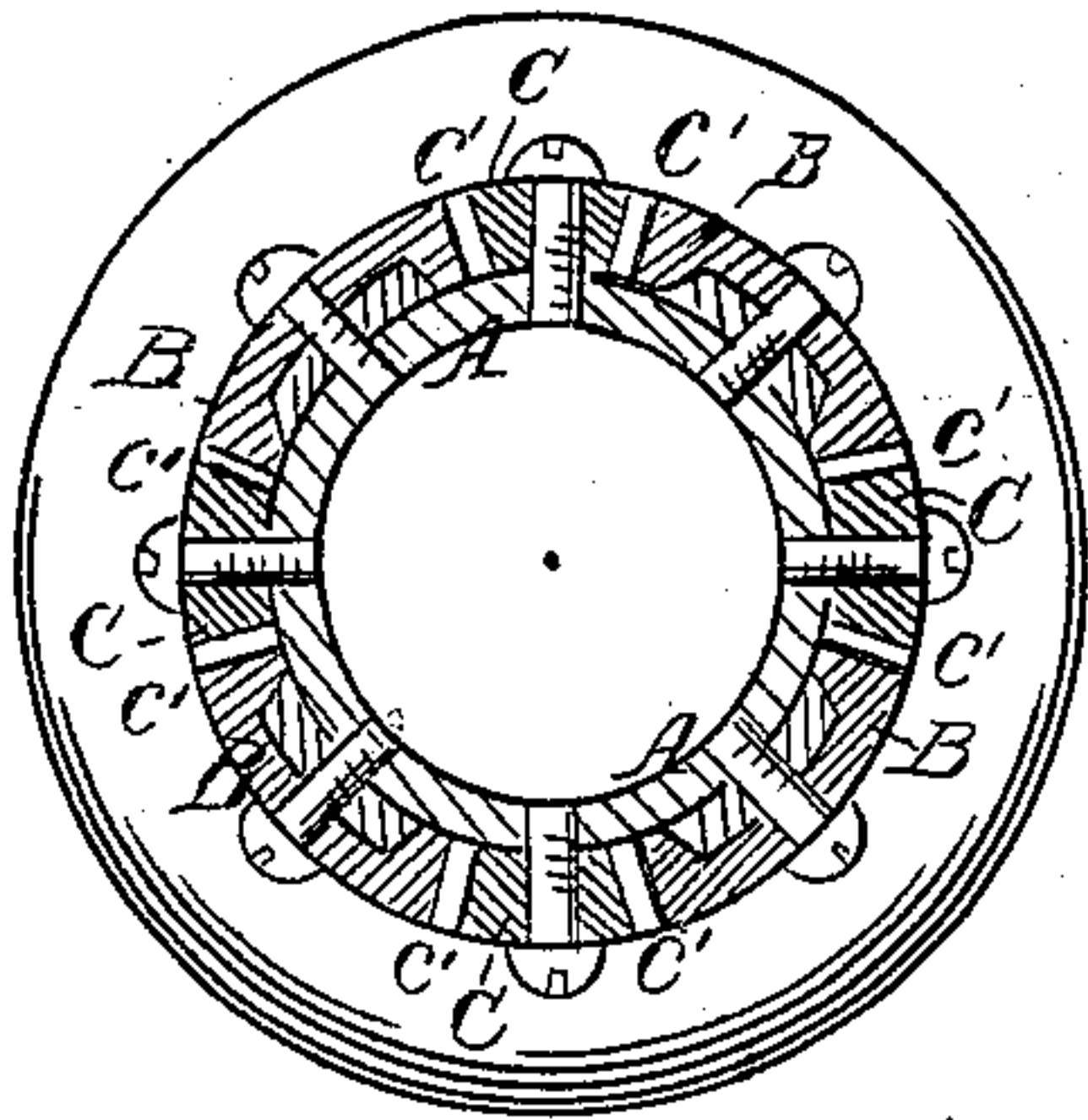
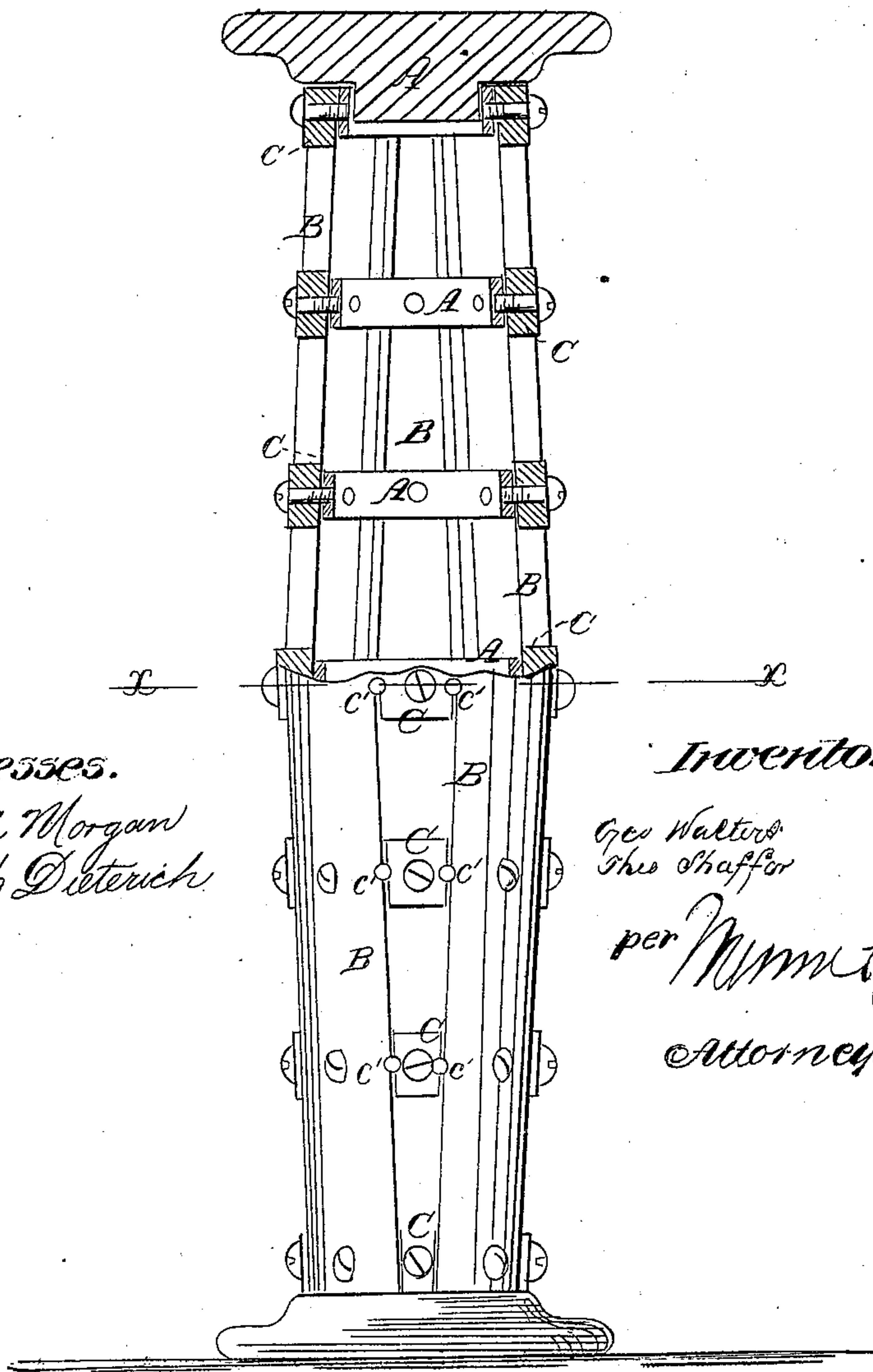


Fig: 2.



Witnesses.

Am. A Morgan
Philip Dieterich

Inventor.

Geo Walters
Sho Shaffer

per *Wm. L.*
Attorneys

UNITED STATES PATENT OFFICE.

GEORGE WALTERS AND THOMAS SHAFFER, OF PHOENIXVILLE, PA.

IMPROVED METALLIC COLUMN.

Specification forming part of Letters Patent No. 87,016, dated February 16, 1869.

To all whom it may concern:

Be it known that we, GEORGE WALTERS and THOMAS SHAFFER, of Phoenixville, in the county of Chester and State of Pennsylvania, have invented a new and useful Improvement in Iron or Steel Columns; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a cross-section of our improved column taken through the line *x x*, Fig. 2. Fig. 2 is a side view of the same, partly in section, to show the construction.

Similar letters of reference indicate corresponding parts.

Our invention has for its object*to furnish an improved column of great strength and rigidity, and which shall at the same time be easily and conveniently constructed and put together, and which may be made of any desired size and style; and it consists in the column constructed in the manner hereinafter more fully described.

A are the rings or interior bands, which may be made of any desired size, according to the required dimensions of the column. B are the longitudinal bars, which may be made of any desired size, and any desired number of which may be used, as the desired size of the column may require.

The bars B are hollowed or concaved longitudinally, said concave being of a less radius in its cross-section than the radius of the column, for the purpose hereinafter described. The bars B are secured to the rings or bands A by bolts or screws, as shown in Figs. 1 and 2, at a short distance from each other, so as to leave a narrow open space between them, as shown.

C are the binding-blocks, which are made wedge-shaped, or rather in the form of the key-stone of an arch, as shown in Fig. 1, and which are secured to the rings A by bolts or screws, as shown. *c'* are ribs or tongues formed upon the sides of the block C, and

which enter grooves in the edges of the bars B, so as to prevent the bars B from slipping or getting out of place should the column be subjected to an oblique pressure.

The ribs or guards *c'* may be cast or forged upon the blocks C, or they may be made separate and inserted in holes, one-half of each of which is formed by grooving the edges of the bars B, and the other half by grooving the sides of the blocks C. We prefer the former construction.

The columns A B C are made with a swell or enlargement, which may be in the middle part of the column, giving it a form somewhat similar to frustums of two cones placed base to base; or the said swell or enlargement may be at or near one end, giving the column the form of the frustum of a cone, as may be desired. This swell is formed by making the interior bands or rings A of different diameters, as shown in Fig. 2.

In putting the columns together the rings or bands A are arranged in order, and the longitudinal bars B are attached to them, care being taken not to force the attaching bolts or screws fully into their places. The blocks C are then arranged in their places and partially secured by their bolts or screws. Then, as the screws or bolts are tightened to draw the bars and blocks to their places, the interior bands or rings A will be put under tension, and the bars B and blocks C under compression, binding all the parts firmly together and producing a column of immense strength and rigidity.

We claim as new and desire to secure by Letters Patent—

An improved iron or steel column, formed by the combination of the interior bands or rings A, concave bars B, and binding-blocks C, whether the said blocks C are provided with ribs or tongues *c'* or not, with each other, substantially as herein shown and described, and for the purpose set forth.

GEORGE WALTERS.

Witnesses: THOMAS SHAFFER.

P. G. CAREY,

E. L. CASWELL.