GEO. A. SPRINGER.

IMP^D ROLLER AND RAIL.

102609

PATENTED MAY 3 1870

Fig 1

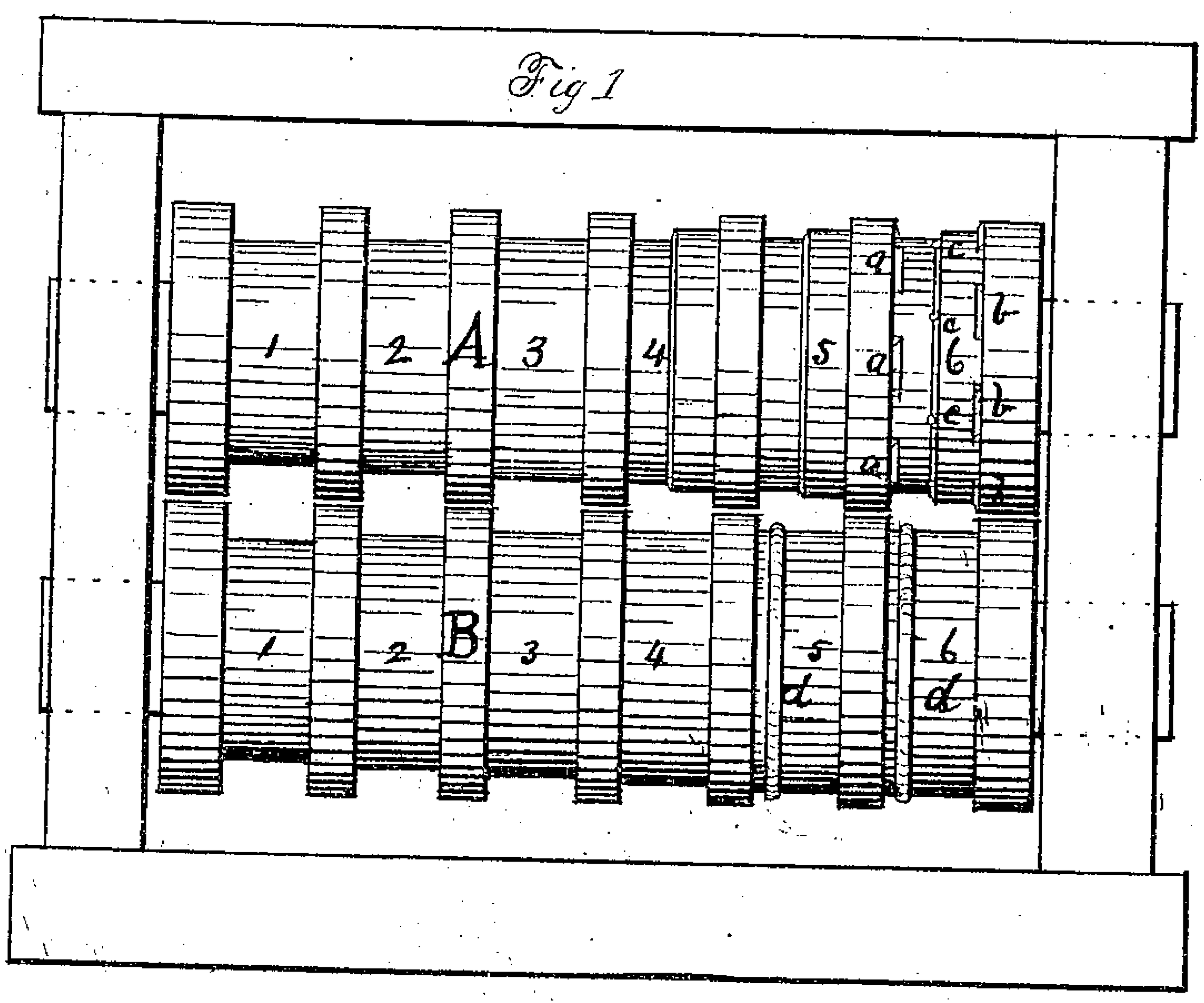
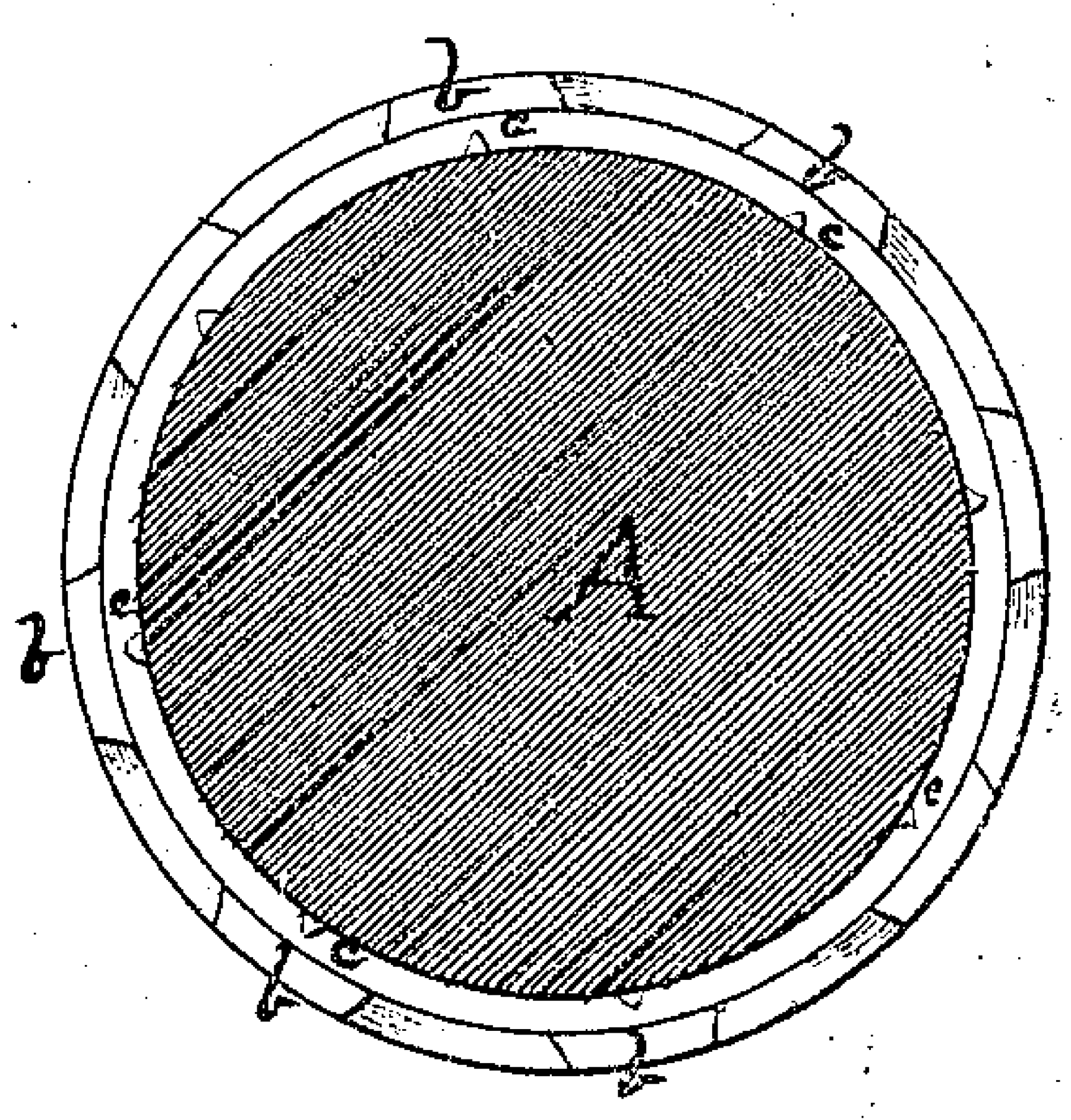


Fig 2



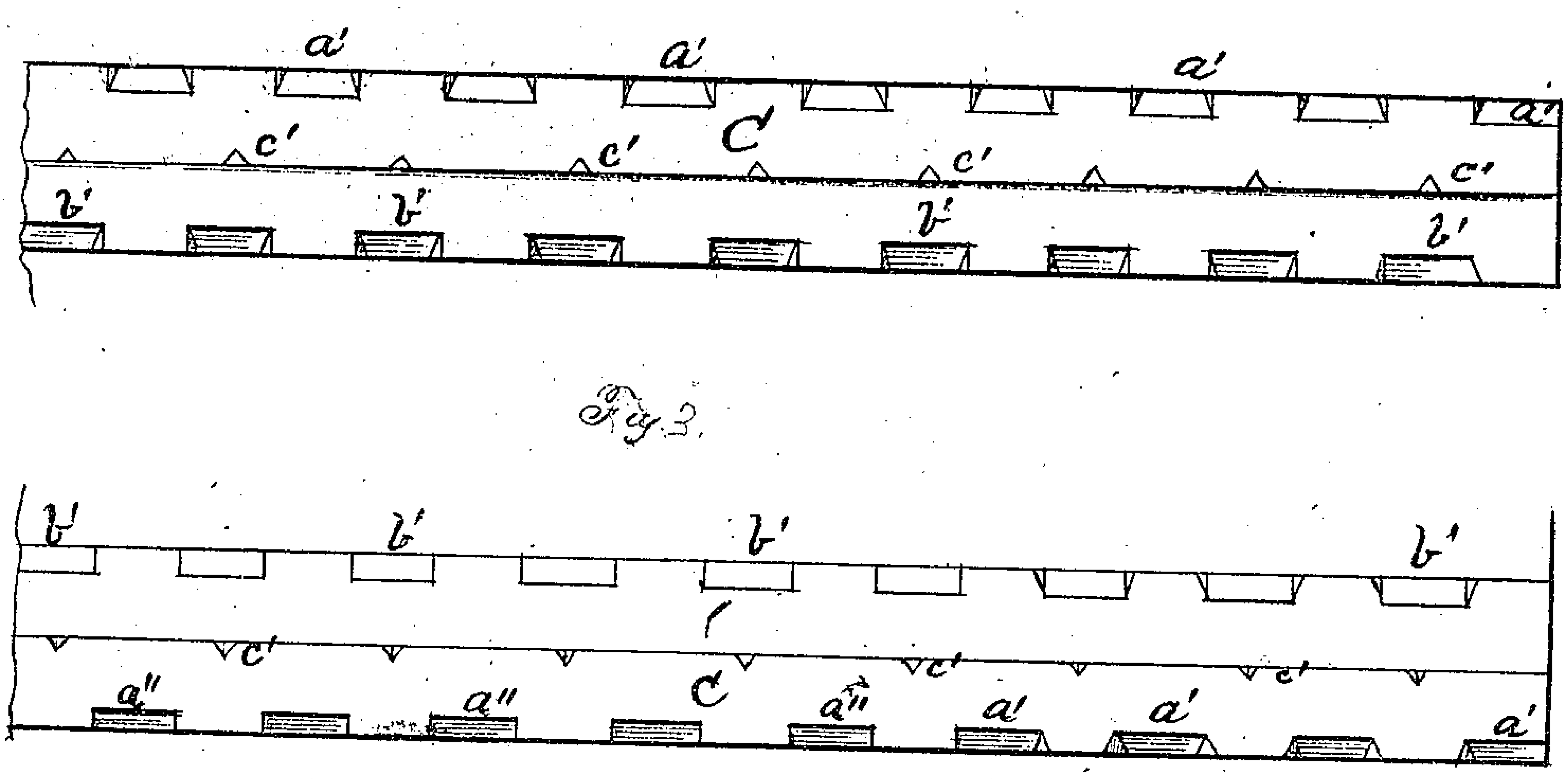


Fig 3.

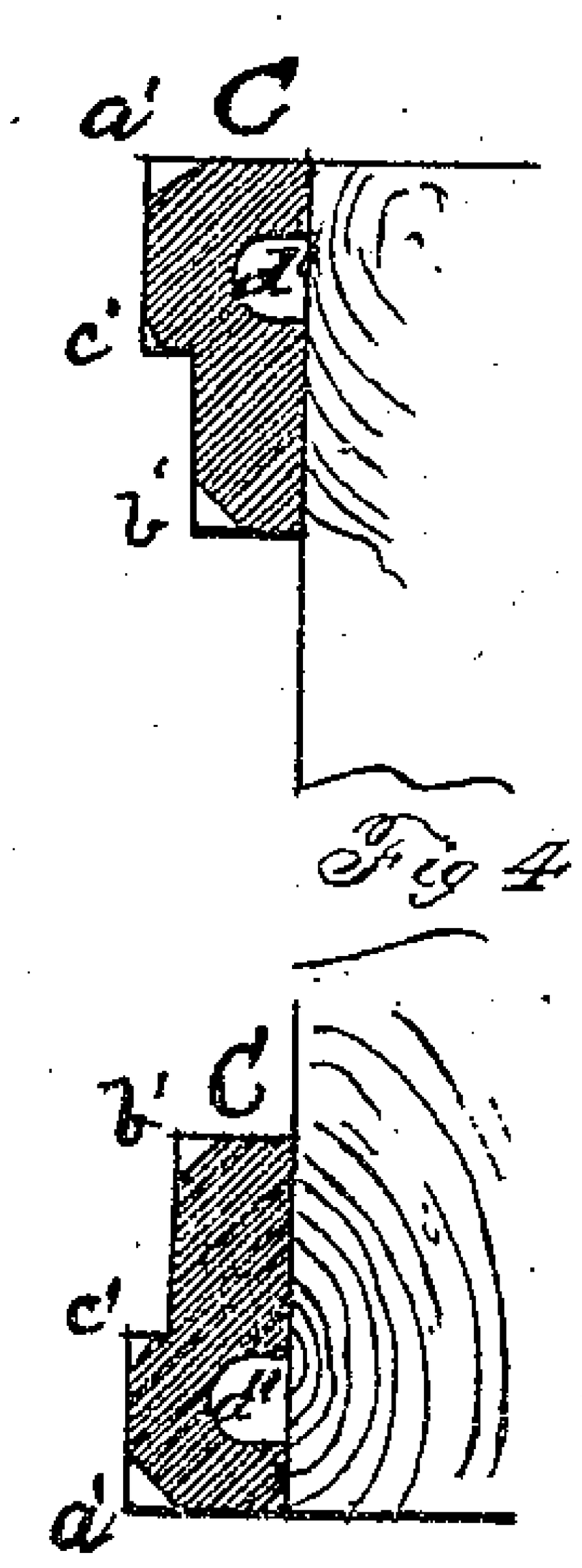


Fig 4

WITNESSES

L. L. Bond

O. W. Bond

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INVENTOR

United States Patent Office.

GEORGE A. SPRINGER, OF CHICAGO, ILLINOIS.

Letters Patent No. 102,609, *dated May* 3, 1870.

IMPROVED ROLL FOR MAKING RAILS FOR STREET RAILWAYS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, GEORGE A. SPRINGER, of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Rolls for Manufacturing Rails for Street Railways, and an improved rail as the product thereof; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings making a part of this specification, in which—

Figure 1 represents a front view of the rollers in position;

Figure 2, a cross-section of the upper one;

Figure 3, a top or plan view of two rails; and

Figure 4, cross-sections of said rails.

The object of my invention is to remedy certain defects which have existed heretofore in rails for street railways, as they have been made smooth, so that when ordinary vehicles are attempted to be run across these rails, or to be gotten out of the track when in, great difficulty has been experienced in getting such vehicles either onto or off from these rails, frequently resulting in breakage or permanent injury to such vehicles; and

Its nature consists in providing the rolls for rolling rails with stubs or projections and a circular flange, so that when the rail is rolled two or more series of notches or indentations will be formed along the upper surface, and a continuous groove along the under side of the rail, without injuring the strength or utility of the same.

To enable others skilled in the art to make and use my invention, I will describe the same.

The rollers A and B are made of the usual dimensions and material, and are provided with forming-grooves 1, 2, 3, 4, 5, and 6, each successive one bringing the rail nearer to its finished shape.

The last one, 6, on the roller A, is provided with wedge or other suitably-shaped projections, *a* and *b*, and also small projections *c* for forming indentations in the rails, as shown at *a'*, *b'*, and *c'*, figs. 3 and 4.

Those made by the projections *c* on the inside of the raised portion are made small, so that they will not interfere with the flanges of the car-wheels, and those made at *a'* are also so made that they will not interfere with the tread of the car-wheels, as they are all made in the angles, and the raised portion is slightly crowned, so that these indentations do not interfere in the least with the movement of the cars. Those made on the inside of the rail are also made in the angle, so as not to interfere with the use of the lower portion of the rail.

These indentations in the rails *c* may be made double wedge-shaped, as shown at *a'* and *b'*, in which shape they are most easily and perfectly formed, and they may be made angular, as shown at *a''*, or of any other desired form, so that they do not interfere with the tread of the rails.

On the roller B, in the groove numbered 6, is a circular projecting flange, *d*, extending entirely around the roller, which forms a continuous groove, *d'*, in the under side of the rail, as shown in fig. 4, so that less metal may be used for making the rail than if it was solid, and at the same time not in the least impair its strength or utility.

Having thus fully described my improvement,

What I claim as new, and desire to secure by Letters Patent, is—

1. The herein-described rolls for rolling rails, provided with stubs or projections, and a circular flange, so that when the rail is rolled two or more series of notches or indentations will be formed along the upper surface, and a continuous groove along the under side, substantially as herein set forth.

2. As an improved article of manufacture, a rail having two or more series of indentations on its upper surface, and a continuous groove on its under side, substantially as and for the purposes herein set forth.

GEORGE A. SPRINGER.

Witnesses:

L. L. BOND,

O. W. BOND.