

(No Model.)

A. D. LINN & A. A. LYTLE.  
SANDING MACHINE.

4 Sheets—Sheet 1.

No. 543,155.

Patented July 23, 1895.

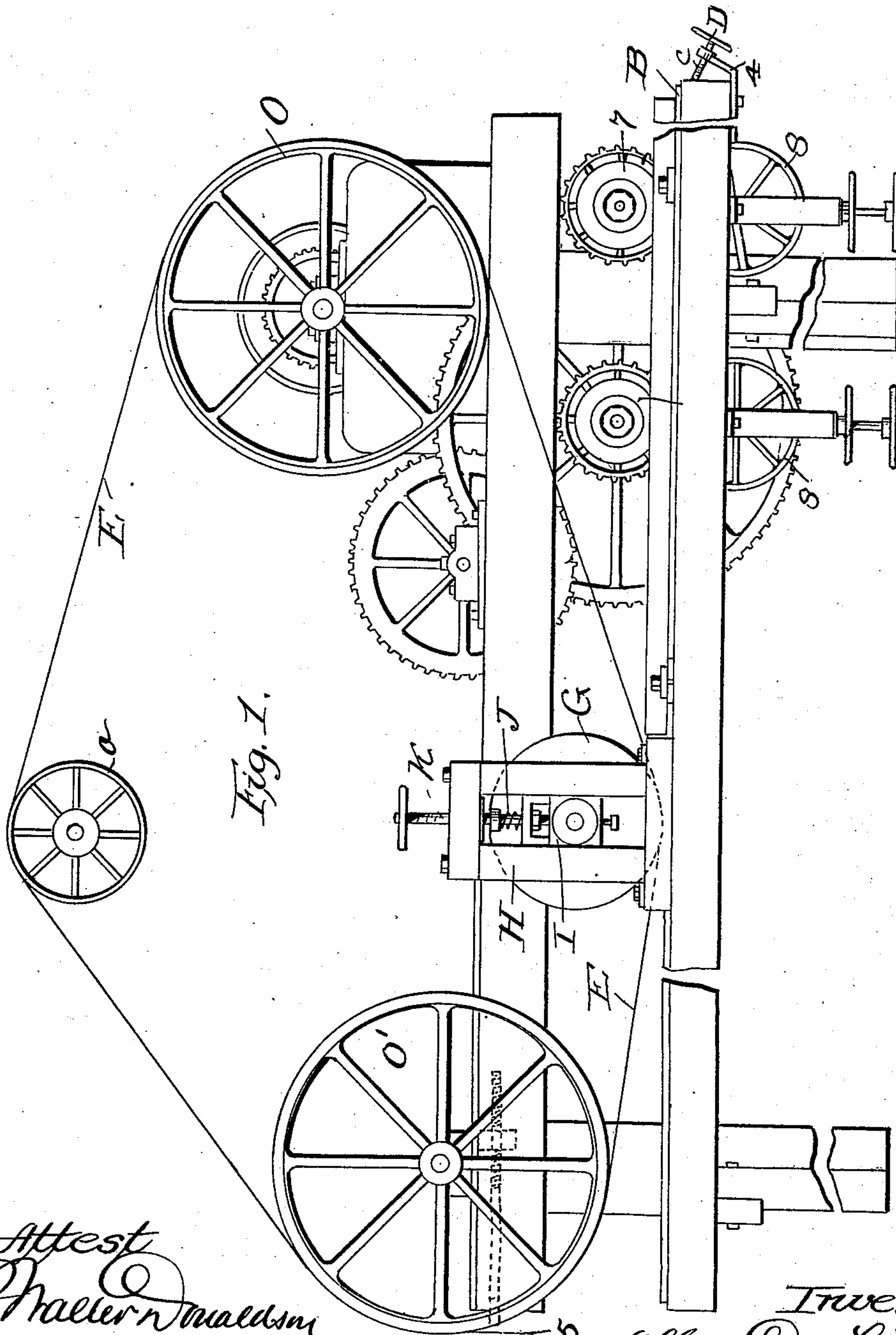


Fig. 1.

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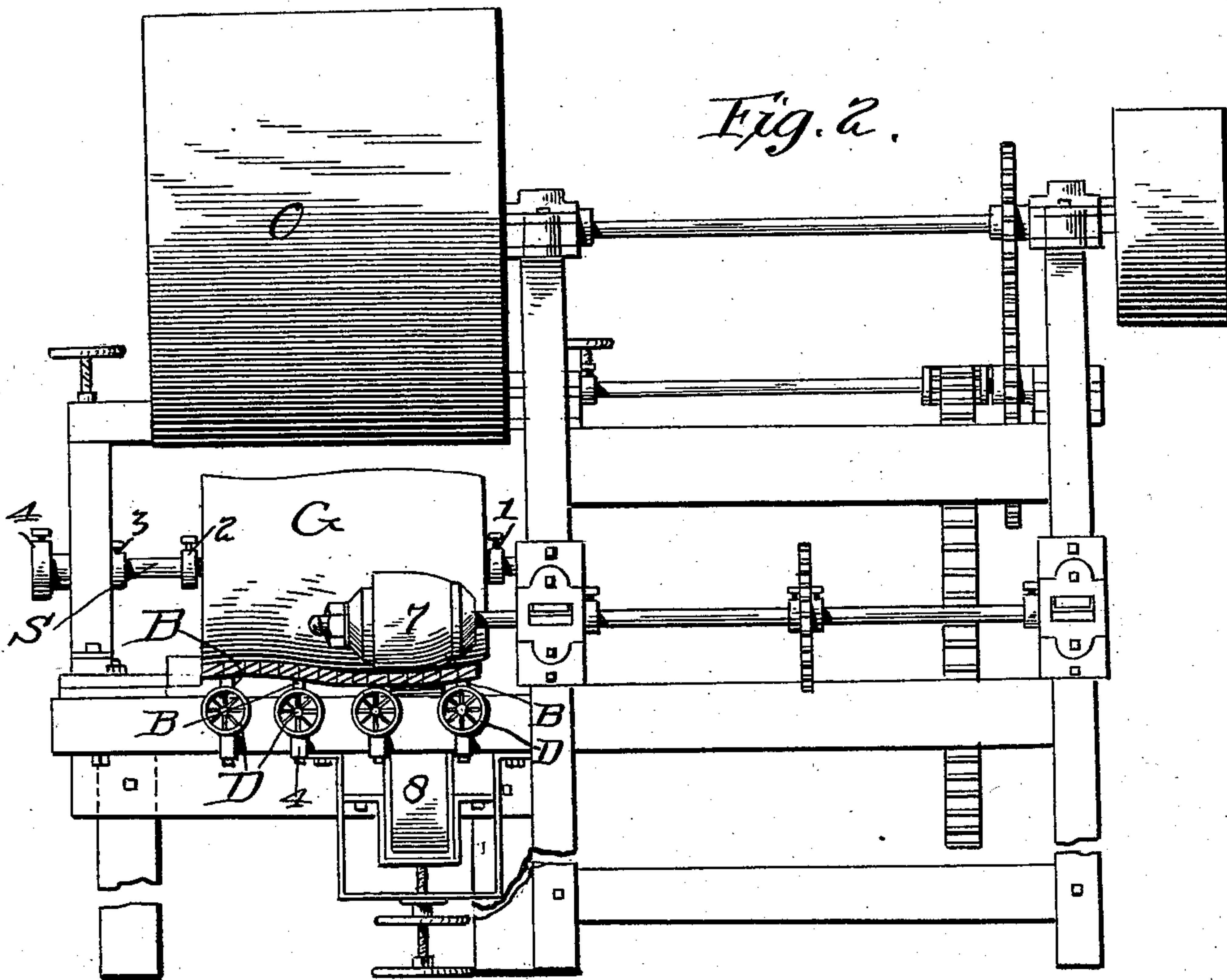
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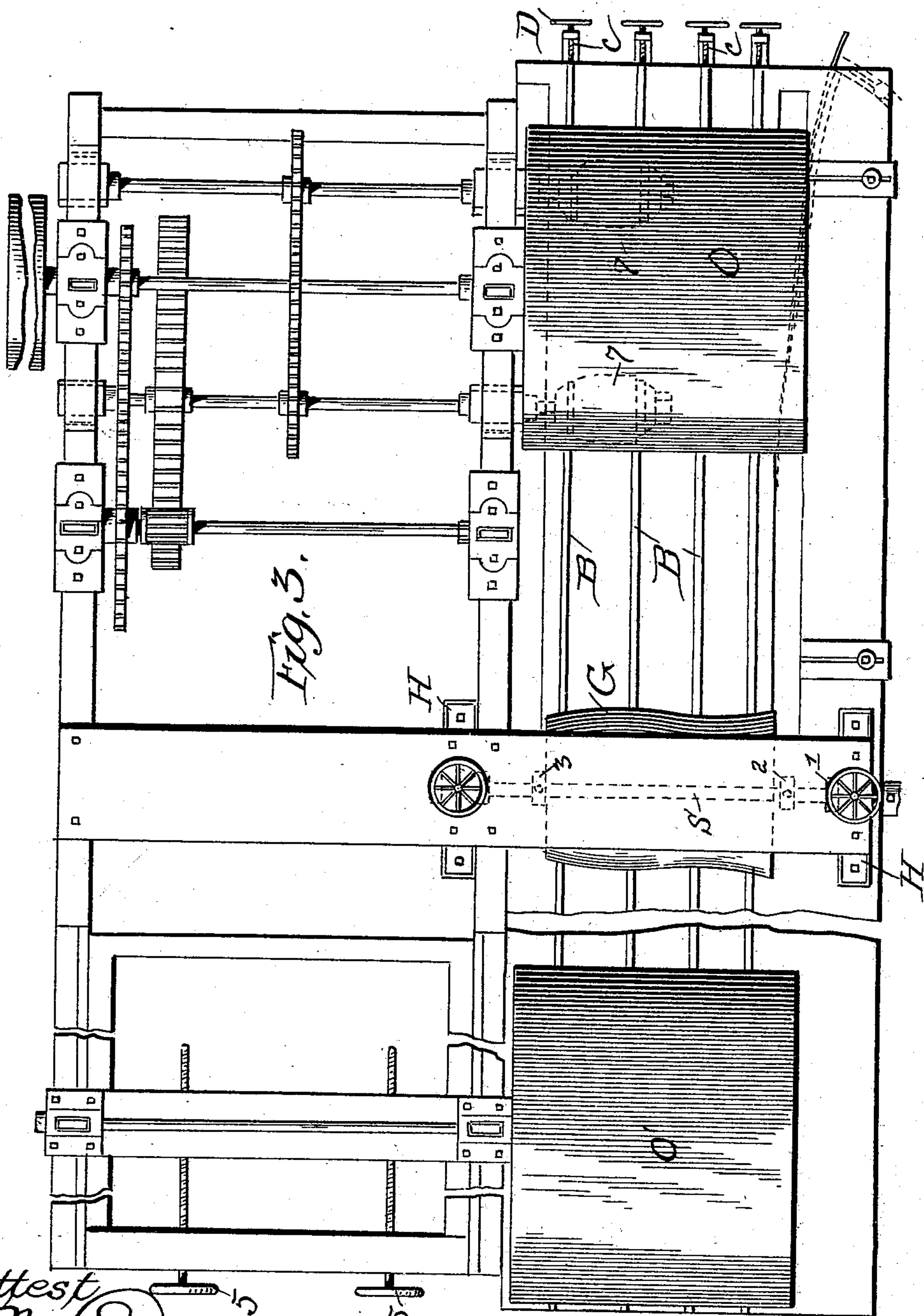
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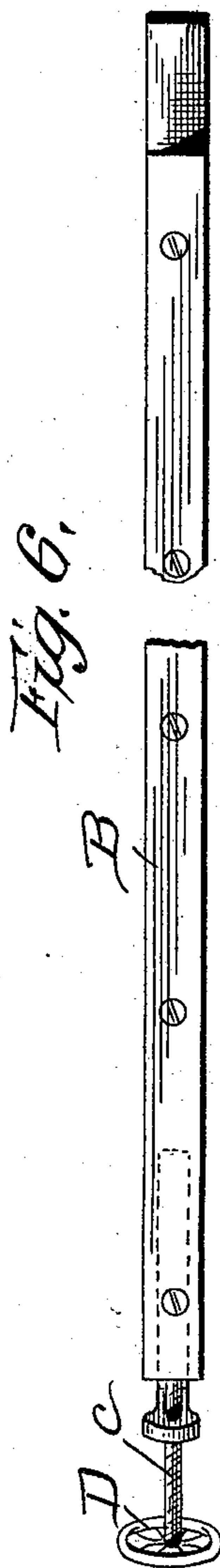
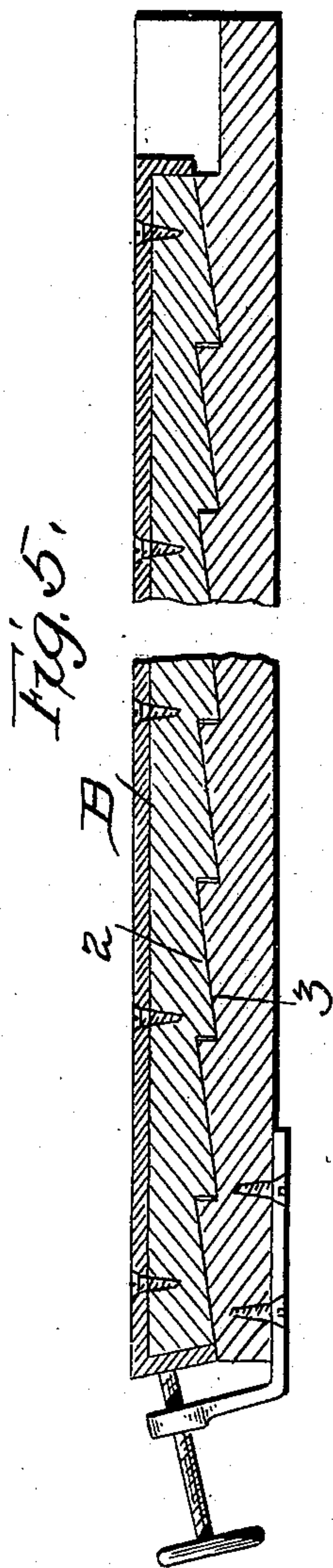
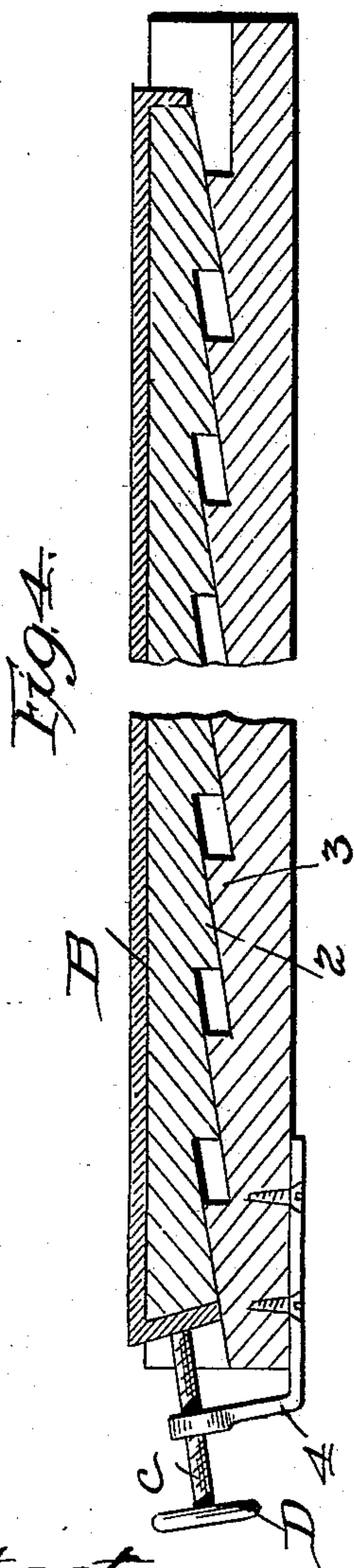
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# UNITED STATES PATENT OFFICE.

ALLEN D. LINN AND ALTON A. LYTLE, OF GRAND RAPIDS, MICHIGAN,  
ASSIGNORS TO THE GRAND RAPIDS SCHOOL FURNITURE COMPANY,  
OF SAME PLACE.

## SANDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 543,155, dated July 23, 1895.

Application filed March 21, 1895. Serial No. 542,703. (No model.)

*To all whom it may concern:*

Be it known that we, ALLEN D. LINN and ALTON A. LYTLE, citizens of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Sanding-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

Our invention relates to machines for sanding or finishing surfaces, such as seats and seat-backs or other irregular-curved surfaces, and it includes a belt which is glued or sanded on one side with means for pressing this belt against the surface to be finished and to direct the belt into the irregularity of the surface; and it further consists of means for adjusting the bed to support the article to be operated upon for holding it in proper position and for feeding it through the machine.

In the drawings, Figure 1 is a side elevation of the machine; Fig. 2, an end elevation; Fig. 3, a plan view; and Figs. 4, 5, and 6 show the means of adjusting the bed-sections.

In the drawings the finishing-belt, which is preferably composed of rubber glued and sanded on one side, so as to make it equal to the best sandpaper, is shown at E, and this passes over two large drums O O', one of which is connected with driving mechanism, while a smaller drum o takes up the slack of the belt. The lower line of travel of the belt is directly over the bed, which travels from one end of the machine to the other with the article clamped thereto, so as to present it to the finished surface of the belt E. The back, seat, or other article is clamped in place upon the bed by means of lateral clamps or slides, which hold it while it is passing under the finishing-belt.

In order to provide a proper support for the article, which has irregular faces, the bed upon which it rests is provided with a series of longitudinal bars, as shown in Fig. 4, having a series of inclines formed on their under faces, which engage and rest upon corresponding inclines on the bed or on bars inserted in grooves in the bed, or it may be held in any suitable way. The bars are shown at B, the inclines thereon at 2, and the inclines of the bed at 3. These bars are adjusted by means of screws c, supported in the upper ends of

brackets 4, which are secured to the under part of the bed and project upwardly, as shown. By adjusting the screws c through the hand-wheels D the bars B are raised or lowered by reason of the inclines, and thus an adjustment is effected to support the article whatever its irregularity or shape.

About midway of the frame of the machine is situated a roller G, which is of a shape as to its periphery conforming approximately to the upper face of the article to be finished, and the purpose of this roller is to press the belt E, as it passes beneath it, down upon the surface of the article, so that it will be conformed to its shape and finish it evenly and uniformly at every point of its surface. This roller is mounted in movable bearings or boxes I, which are held in guides H, and it is pressed down by springs J, bearing on the boxes and adjusted in tension by the screws K. The shaft S of the roller is held by collars 1 2 3 4, and these may be readily drawn out and the roller removed to substitute another of different shape when an article of different shape is to be smoothed.

The driving mechanism may be of any ordinary or improved construction.

In an application of even date herewith we have shown a modified form of the adjustable bed-sections, and hence we do not claim, broadly, the vertically-movable sections in this application.

The tension of the traveling belt E may be adjusted by the adjustment of the wheel O', which is capable of being moved on suitable ways by means of the screw and hand-wheel 5.

As shown in the figures, we may feed the stock forward by feeding-rolls 7 and 8, arranged above and below the stock, the feed-rolls 8 projecting through an opening in the bed and the feed is by frictional contact with the article, and the effect is to feed it through beneath the belt in a direction opposite to that of the belt's movement. The upper feed-rollers are mounted upon shafts driven through a train of gearing and the lower rolls are supported on hangers which may be adjusted to apply more or less pressure and simply operate as idlers, the article being clamped between the upper and lower rolls.

After the material has passed once beneath

the belt it is usual to change the belt from a coarse to a finer one and a second sanding is usually sufficient; but in case it is not the articles may be passed through as often as may  
5 be found necessary.

What we claim is—

1. In combination, a table or bed and a series of independently vertically movable bars fitting grooves or recesses in said bed, each of  
10 said bars having a series of inclines on its under face engaging corresponding inclines in the bottom of the recess, a bracket secured to the bed or table, and adjusting means carried by said bracket and engaging the bars,  
15 substantially as described.

2. In combination with a belt E having a sanding surface, a roller G for pressing said belt upon the surface to be sanded, a table or bed and a series of independently adjustable bars forming the bearing surface whereby irregular articles may be supported, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

ALLEN D. LINN.  
ALTON A. LYTLE.

Witnesses:

L. T. GIBSON,  
C. F. PERKINS.