No. 705,473. Patented July 22, 1902.

J. STERNFELD.

PARALLEL RULER.

(Application filed Sept. 30, 1901.)

(No Model.)

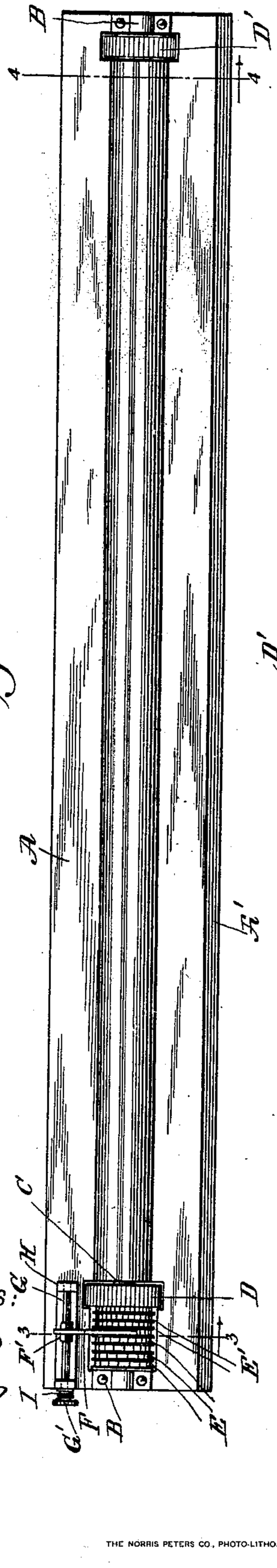

Fig. 1.

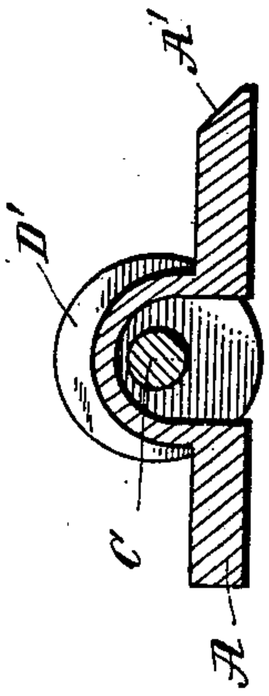

Fig. 4.

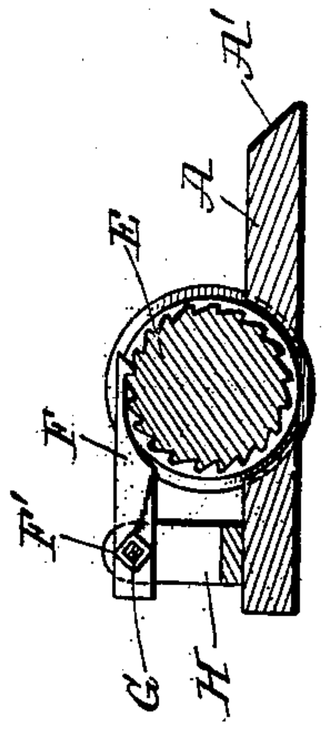

Fig. 3.

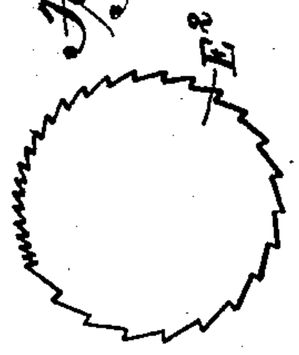

Fig. 5.

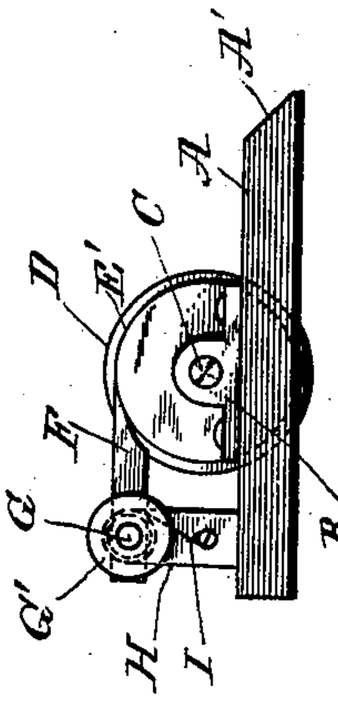

Fig. 2.

WITNESSES:

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JULIUS STERNFELD, OF NEW YORK, N. Y.

PARALLEL-RULER.

SPECIFICATION forming part of Letters Patent No. 705,473, dated July 22, 1902.

Application filed September 30, 1901. Serial No. 77,081. (No model.)

To all whom it may concern:

Be it known that I, JULIUS STERNFELD, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Parallel-Ruler, of which the following is a full, clear, and exact description.

The invention relates to drawing instruments; and its object is to provide a new and improved parallel-ruler or section-liner which is simple and durable in construction, easily manipulated, and readily and quickly adjusted for setting the instrument to enable the user to draw parallel lines spaced the desired distances apart.

The invention consists of novel features and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claim.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of the improvement. Fig. 2 is an enlarged end elevation of the same. Fig. 3 is an enlarged cross-section of the same on the line 3 3 of Fig. 1. Fig. 4 is a similar view of the same on the line 4 4 of Fig. 1, and Fig. 5 is a face view of a modified form of ratchet-wheel.

A flat ruler A, of any desired size and material, is provided on its top, preferably at the ends, with bearings B for a longitudinally-extending shaft C, carrying rollers D D′, adapted to travel over the surface on which parallel lines are to be drawn, the said rollers serving to support the flat ruler A and to carry the same along over the surface. On the shaft C or directly to the roller D are secured ratchet-wheels E, preferably of the same diameter, but having teeth spaced different distances apart, with the ratchet-wheels E separated one from the other by flanges E′, as plainly indicated in the drawings. One of the ratchet-wheels E is engaged at a time by a pawl F, mounted to slide on and to rock with the shaft G, journaled in suitable bearings H, carried by the flat ruler A, the said shaft having its main portion made polygonal in cross-section to engage a correspondingly-shaped bore in the hub F′ of the pawl F. On the outer end of the shaft G is secured or formed a knob G′, adapted to be taken hold of by the operator to impart a rocking motion to the shaft to swing the pawl F out of engagement with the ratchet-wheel at the time it is desired to shift the pawl lengthwise on its shaft G for bringing the pawl in alinement with a ratchet-wheel. A spring I presses the shaft G to hold the pawl F normally in engagement with a selected ratchet-wheel. The shaft C, carrying the rollers D D′, extends, preferably, in a recess formed on the under side of the ruler A, as plainly indicated in Fig. 4.

The device is used as follows: The operator first shifts the pawl F longitudinally on the shaft G, so as to bring the pawl in engagement with a ratchet-wheel having its teeth spaced apart corresponding to the distance between the parallel lines to be drawn. When this has been done, the operator places the ruler A in proper position over the drawing-paper or other surface on which the lines are to be drawn and then draws a line along the beveled edge A′ of the rule and moves the rule A transversely, with the rollers D D′ traveling over the drawing-paper, until the pawl F engages or snaps into the next tooth on the selected ratchet-wheel. The operator now draws a second line along the edge A′ and then again shifts the flat ruler A transversely, as above described, to repeat the operation. This is done as often as necessary to draw the desired parallel lines. It is understood that for spacing the lines different distances apart it is necessary to shift the pawl F along the shaft G to bring the pawl in alinement and finally into engagement with a ratchet-wheel E, having its teeth divided according to the distances between the lines to be drawn.

Instead of having each ratchet-wheel with teeth of equal length, as shown in Fig. 3, I may use a ratchet-wheel with teeth of unequal or gradually-increasing length, as indicated at E^2 in Fig. 5. When the instrument is provided with such a ratchet-wheel and the pawl F engages it, then parallel lines can be drawn unequal distances apart. This

arrangement is serviceable for drawing shade-lines, &c.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

A parallel-ruler comprising a ruler proper, a shaft having rollers and journaled on the ruler, a ratchet-wheel having teeth of a pitch varying according to a predetermined law and rotating with the shaft and rollers, and a pawl carried by the ruler and engaging the said ratchet-wheel, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JULIUS STERNFELD.

Witnesses:
WM. M. CHRISTIE,
WILFRED OLDFIELD.