

H. VAN ALTENA.
PARALLEL RULER.

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933,798.

Patented Sept. 14, 1909.

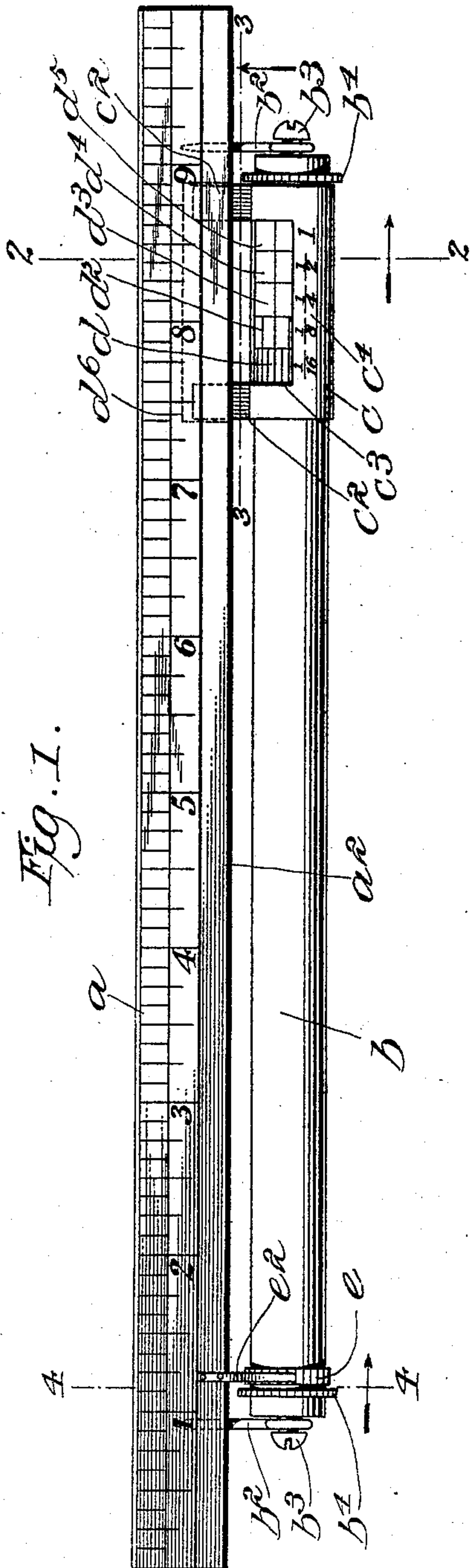


Fig. 1.

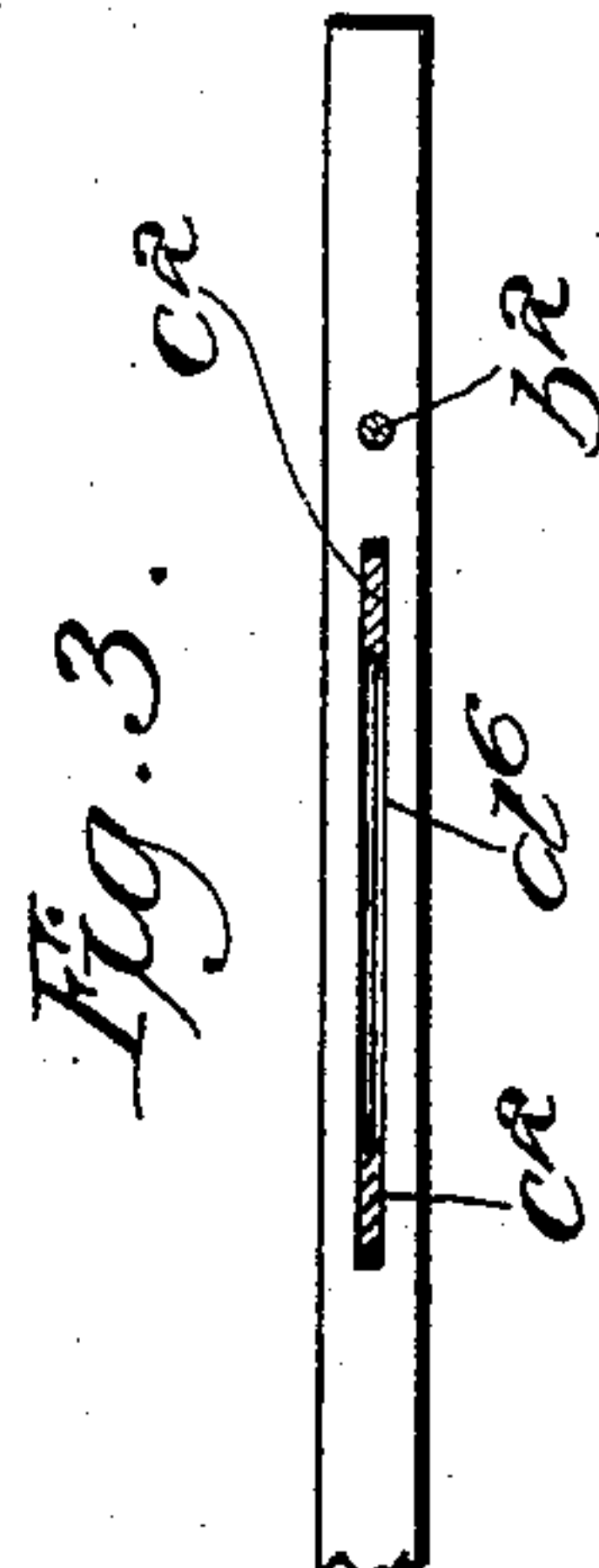


Fig. 3.

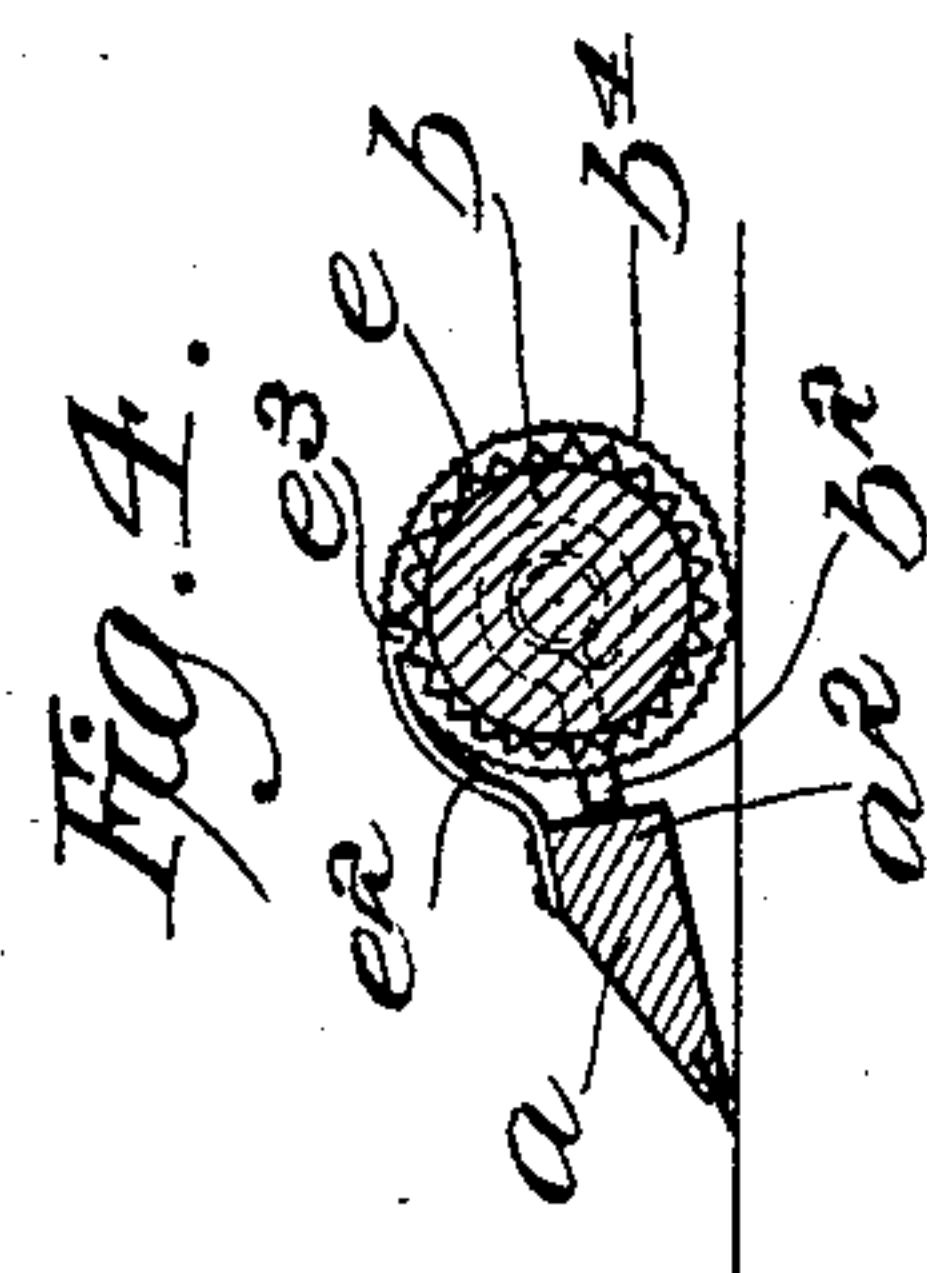


Fig. 4.

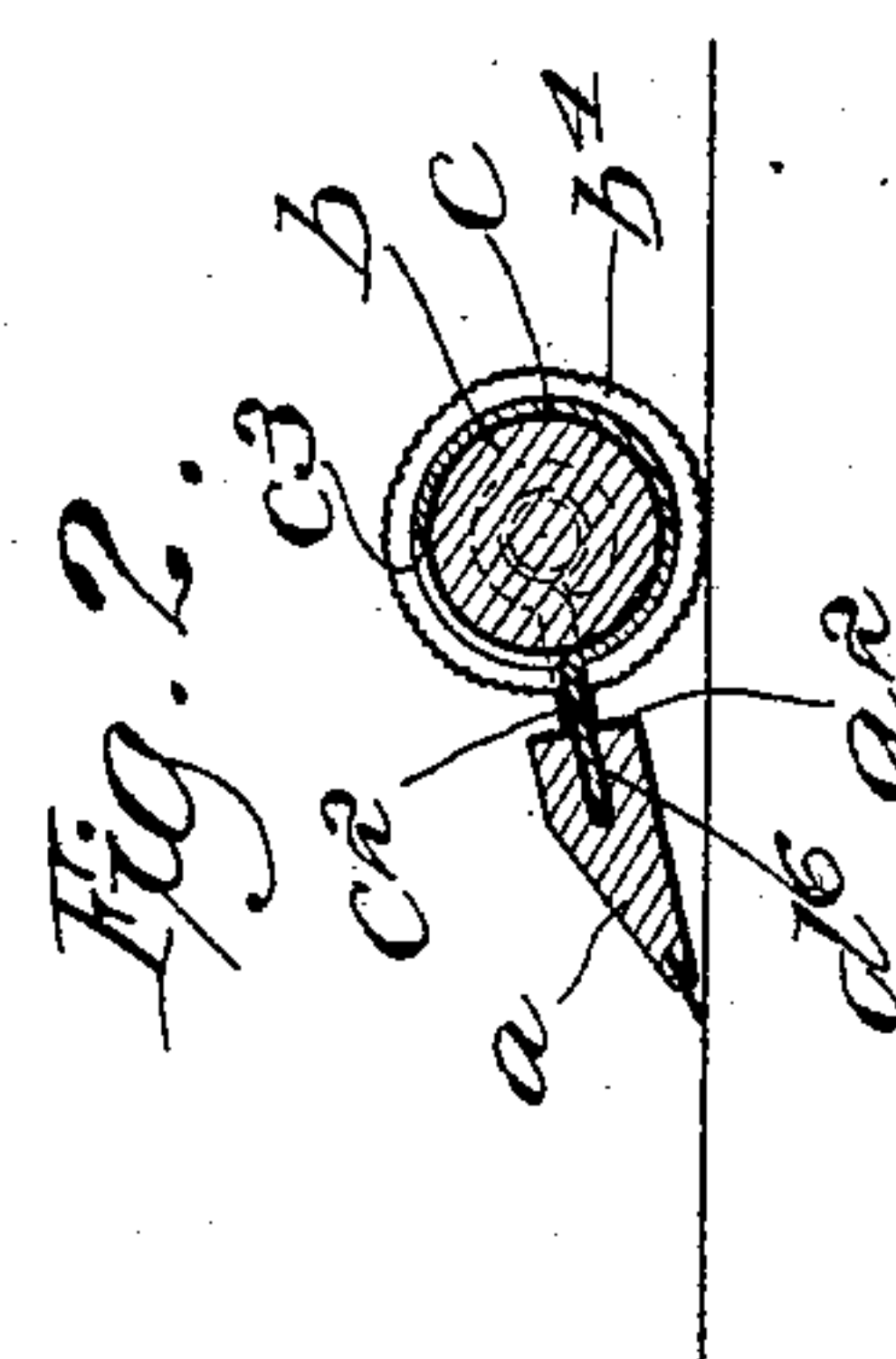


Fig. 2.

WITNESSES:

A. R. Appleman
H. P. Confield

INVENTOR
Henry Van Altena
BY *Edgar Tate & Co.*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

HENRY VAN ALTENA, OF SOMERSET COUNTY, NEW JERSEY.

PARALLEL-RULER.

933,798.

Specification of Letters Patent. Patented Sept. 14, 1909.

Application filed May 5, 1909. Serial No. 494,011.

To all whom it may concern:

Be it known that I, HENRY VAN ALTENA, a citizen of the United States, and residing in the county of Somerset and State of New Jersey, have invented certain new and useful Improvements in Parallel-Rulers, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to rulers, and particularly to what are known as parallel rulers; and the object thereof is to provide an improved device of this class which is simple in construction and exact in operation, and which may also be used as an ordinary scale ruler and for the purpose of drawing triangles, rectangles, parallelograms and the like quickly and easily, and which may be conveniently used in what is known as "cross hatching" or the shading of sectional views in making drawings of various kinds and classes.

The invention is fully disclosed in the following specification, of which the accompanying drawing forms a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which;—

Figure 1 is a plan view of my improved ruling device, Fig. 2 a cross section on the line 2—2 of Fig. 1, Fig. 3 a longitudinal section on the line 3—3 of Fig. 1, and;— Fig. 4 a cross section on the line 4—4 of Fig. 1.

In the practice of my invention, I provide an ordinary measuring rule a which may be of any desired length, but which as shown in the drawing, is ten inches long, and in the practice of my invention I connect with the back a^2 of the rule a a roller b of predetermined length and preferably a couple of inches shorter than the rule a .

The roller b is connected with the back of the rule a by means of eye bolts b^2 which are screwed into the back of said rule, and screws b^3 which are passed through the heads of the eye bolts b^2 and into the ends of the roller b . The roller b is also provided adjacent to each end with a toothed wheel or milled wheel b^4 , and these wheels facilitate the operation of the device as hereinafter described.

One end of the roller b , the right hand end as shown in the drawing, is provided with a sleeve c through which said roller passes and in which said roller is free to turn, and the

sleeve c is provided at each end with projecting supports c^2 which are preferably cut from the material of said sleeve and which are inserted into a longitudinal slot d^6 formed in the back a^2 of the rule a , and by means of this construction the sleeve c has a connection with the rule a independent of said roller. The sleeve c is also provided with a longitudinal opening c^3 at the back edge of which is a scale c^4 which, in the construction shown, represents an inch and fractions thereof, the fractions being one-sixteenth, one-eighth, one-quarter and one-half, and the roller b is provided with annularly arranged scale marks d , d^2 , d^3 , d^4 and d^5 which correspond respectively with the scale marks one-sixteenth, one-eighth, one-quarter, one-half and one on the sleeve c .

The projecting members c^2 which connect the sleeve c with the rule a are simply inserted into the slot d in the back of the rule and are free to move in said slot in the form of construction shown, but the roller b is held permanently in a predetermined position and neither the said roller nor the sleeve c can move far enough in either direction to disarrange the scale marks d , d^2 , etc. on said roller in relation to the scale marks one-sixteenth, one-eighth, etc. on the sleeve c .

The operation of this device will be readily understood from the foregoing description, when taken in connection with the accompanying drawing and the following statement thereof. The device is placed on a paper or other surface as shown in Fig. 2, and pressure is applied to the top surface or side of the roller b with one hand or the fingers thereof and the initial line is drawn by means of a pencil held in the other hand. If it is desired to make the parallel lines one-sixteenth of an inch apart, the device is moved backwardly until the roller b turns through one of the spaces indicated by the scale marks d thereon when another line is drawn and so on until all the desired lines are drawn. If it is desired to make lines one-eighth or one-quarter or one-half of an inch, or one inch apart, the scale marks d^2 , d^3 , d^4 or d^5 are used as will be readily understood. In this operation the wheels b^4 regulate the backward movement of the device on the surface which is being ruled and insures a gradual and even movement of the device without the slipping thereof in any direction.

In order to adapt the device for use in

making what are known as "cross hatching" or sectional shading lines I provide the roller *b* with a ratchet or toothed wheel *e* which is preferably connected therewith at the end opposite the sleeve *c*, but which may be connected therewith at any desired point, and a spring arm *e*² is secured to the rule *a* and provided with a tooth *e*³ which operates in connection with the ratchets or teeth on the wheel *e*, and the distance between the "cross hatching" or shading line will be determined by the distance represented by the ratchets or teeth on the wheel *e*.

In "cross hatching" or sectional shading, the device may be held at any desired angle on the sheet on which the drawing is being made, and after each backward movement thereof, as in the operation of parallel ruling hereinbefore described, a shading line will be drawn. In this operation there is a slight click or noise made at each backward movement of the device by the spring arm *e*² operating in connection with the wheel *e*, and this will indicate to the operator any uneven or irregular backward movement of the device.

By means of my improvement, I provide a parallel ruling device which is simple in construction and operation and may be conveniently manipulated, and which may also be used in what is known as "cross hatch" shading in making sectional views of various kinds and classes; and my invention is not limited to the exact construction, combination and arrangement of parts herein shown and described, and various changes therein and modifications thereof may be made, within the scope of the appended claims, without departing from the spirit of my invention or sacrificing its advantages. It will also be seen that although I have shown and described the part *a* as provided with a measuring scale, it will be apparent that this is not an essential feature, as any suitable straight edged device of the general form of the part *a* may be substituted therefor.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In a device of the class described, a parallel ruling device comprising a straight edge device, a roller mounted at the back thereof and provided adjacent to each end with toothed wheels, and a sleeve mounted on said roller and connected with the straight edge device, said sleeve being provided with a longitudinal opening at one end of which is a scale, and said roller being provided within said opening with annularly arranged scale marks which correspond with the scale marks on the sleeve.

2. In a device of the class described, a parallel ruling device comprising a straight edge device, a roller mounted at the back thereof and provided adjacent to each end with toothed wheels, and a sleeve mounted on said roller and connected with the straight edge device, said sleeve being provided with a longitudinal opening at one end of which is a scale, and said roller being provided within said opening with annularly arranged scale marks which correspond with the scale marks on the sleeve, and said roller being also provided with a ratchet wheel, and a spring arm connected with the straight edge and provided with a tooth operating in connection with said wheel.

3. A parallel ruler device comprising a straight edge, a roller mounted at the back thereof and provided adjacent to each end with a toothed wheel, a sleeve loosely mounted on said roller and loosely connected with the straight edge, said sleeve being provided with a longitudinal opening adjacent to which is a scale representing fractions of an inch, and said roller being provided within said opening with annularly arranged scale marks representing fractions of inches and corresponding with the scale marks on said sleeve.

In testimony that I claim the foregoing as my invention I have signed my name in presence of the subscribing witnesses this 3rd day of May 1909.

HENRY VAN ALTENA.

Witnesses:

H. R. CANFIELD,
C. E. MULREANY.