No. 793,111. PATENTED JUNE 27, 1905.

C. VON CULIN.

CUTTING GAGE FOR SAW TABLES.

APPLICATION FILED JULY 14, 1904.

2 SHEETS—SHEET 1.

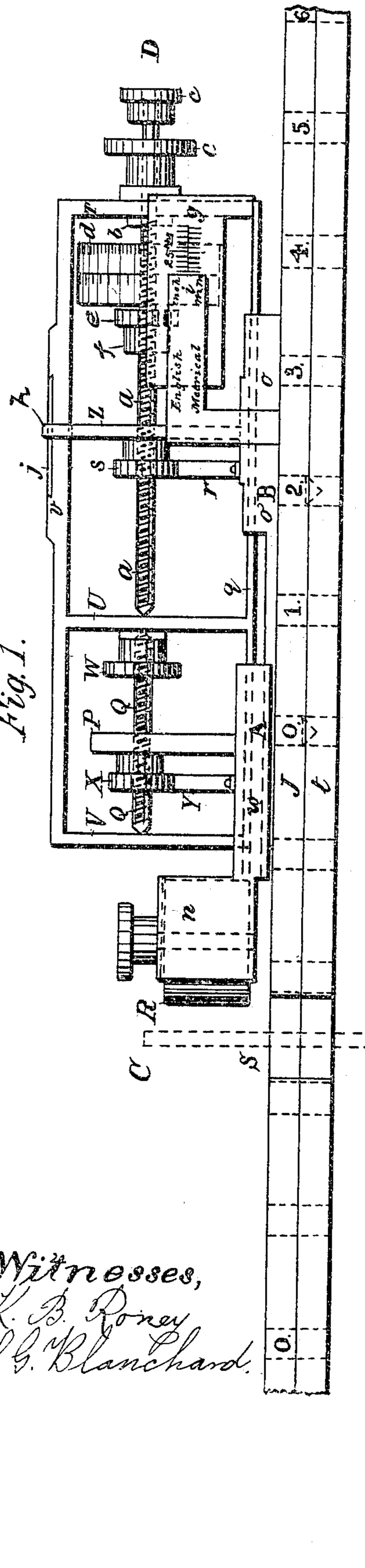

Fig. 1.

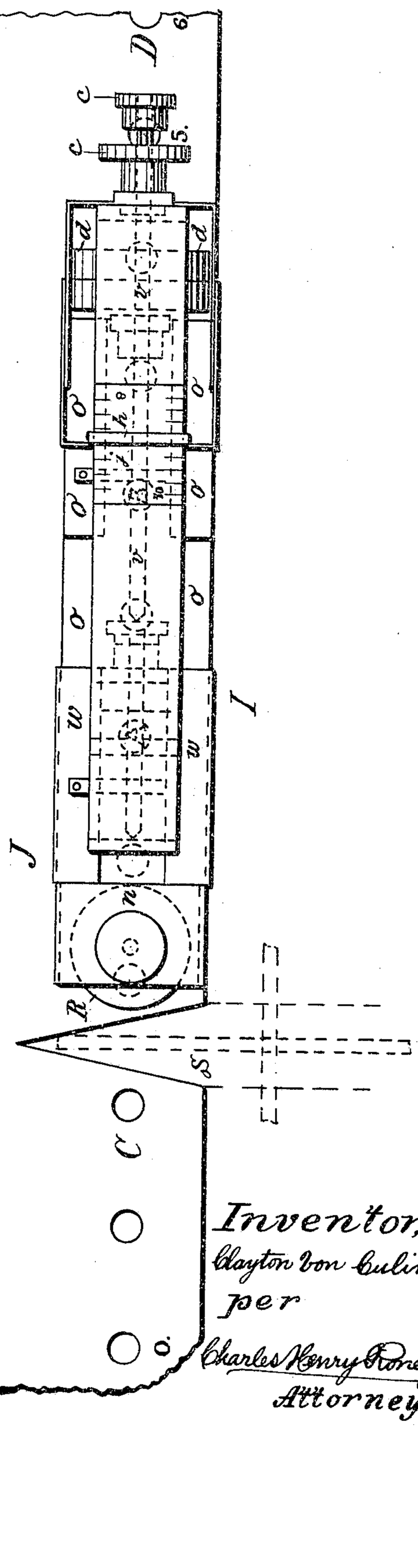

Fig. 2.

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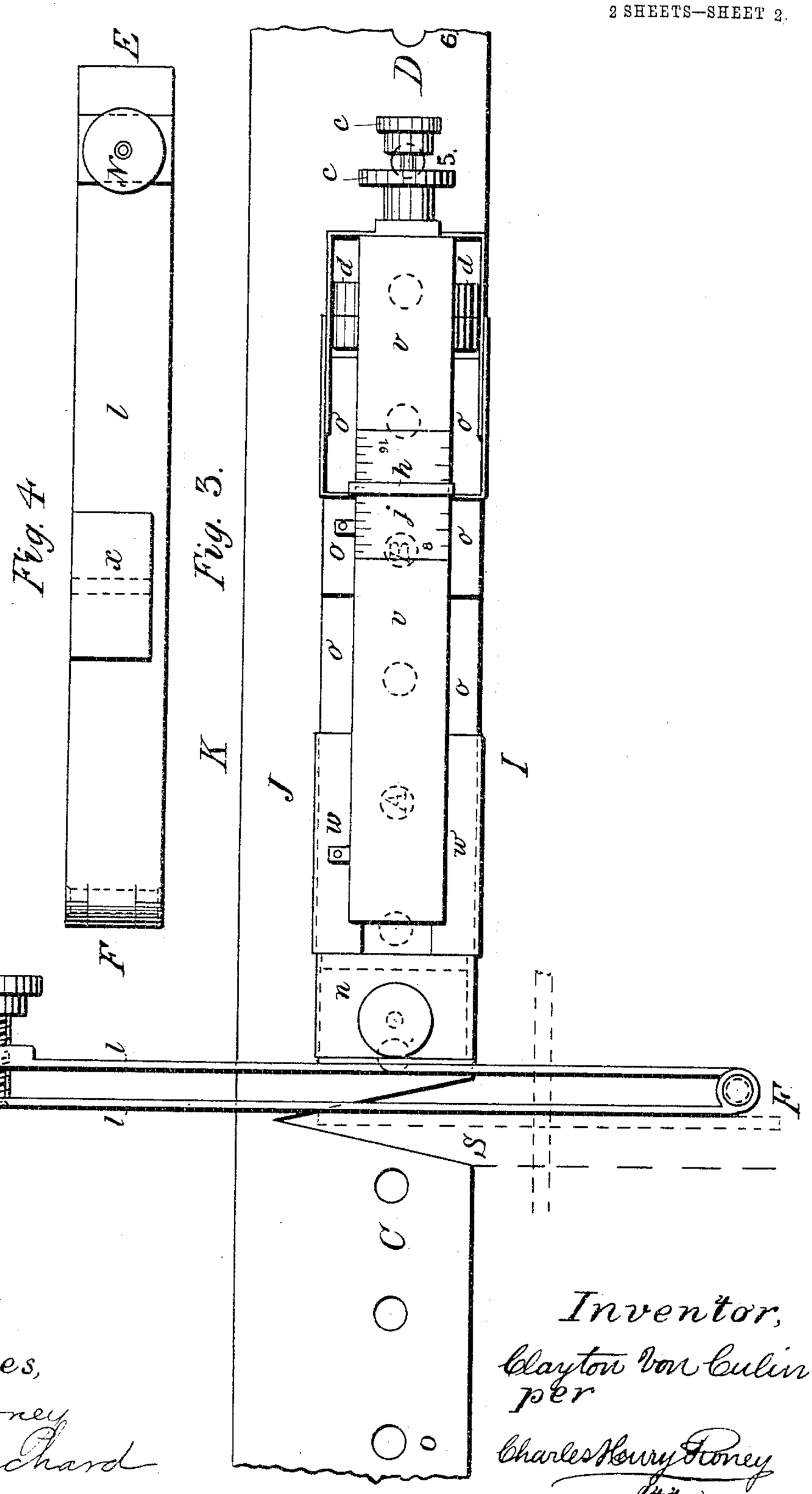

Fig. 4

Fig. 3.

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No. 793,111. Patented June 27, 1905.

UNITED STATES PATENT OFFICE.

CLAYTON VON CULIN, OF WAYLAND, NEW YORK.

CUTTING-GAGE FOR SAW-TABLES.

SPECIFICATION forming part of Letters Patent No. 793,111, dated June 27, 1905.

Application filed July 14, 1904. Serial No. 216,609.

To all whom it may concern:

Be it known that I, CLAYTON VON CULIN, a citizen of the United States of America, and a resident of the town of Wayland, in the county of Steuben and State of New York, have invented certain new and useful Improvements in Cutting-Gages for Saw-Tables, of which the following is a specification.

My invention relates to improvements in cutting-gages or adjustable heads for saw-tables, by means of which I am enabled to set the gage to the saw very rapidly and accurately for the width of "kerf" or cut made by the saw to allow for different thicknesses and set of saw-teeth and also where two or more saws are used and by a separate adjustment and scales to also set the gage to cut any lengths, widths, or thicknesses of material desired. I attain these objects by the mechanism shown in the accompanying drawings, showing my improvements.

Figure 1 shows an elevation of my improvement, looking from I toward K of Fig. 2, set on the saw-table rail J, with the saw S shown by dotted lines, the interior adjusting-screws, wheels, and nuts being also shown by dotted lines. Fig. 2 shows a plan view of Fig. 1 set on a saw-table rail J, the saw S being shown by dotted lines, the gage being ready for adjustment for width of saw kerf or cut and for the dimensions of lumber or other material to be sawed or cut. Fig. 3 shows a plan view similar to Fig. 2 except in omitting the interior dotted lines and in having the attachment *l* for adjustment for "ripping" lumber in place of the roller-head R shown in Figs. 1 and 2. This "ripper" attachment is shown as adjusted to width of saw kerf or cut. Fig. 4 shows an elevation of ripper attachment *l* looking from D toward C of Fig. 3.

Similar characters refer to similar parts in all the views.

My improvement consists of the following principal parts: the base *o*, having spacing-pins A B and having an upright arm Z and indices *h* and *i*, the sliding head *w* P *n* R, and the sliding frame *e* V T U. The sliding head *w* P *n* R slides on the lower part *q* of the sliding frame and *o* of the base *o* Z and has an arm P, with a screw Q threaded through it. This screw Q has one end bearing against the upright U of the sliding frame. The other end of this screw bears against the end V of the sliding frame. This screw Q is operated by a thumb-wheel W, integral with it, and also carries a set-nut X, having a toothed or corrugated circumference which is engaged by the point of the detent, ratchet, or spring-follower Y. The base *o* has an upright arm Z, through which a screw *a* is threaded. This screw *a* has one end bearing against the upright U of the sliding frame. The other end of this screw *a* has a shoulder integral with it or a collar *b*, fast or integral with it, which shoulder or collar *b* bears against the inside of the end T of the sliding frame. This screw *a* terminates in a rod which passes through this end T of the sliding frame and is operated by one or more thumb-nuts or wheels *c c*, attached to the rod. This screw *a* also has a set-nut *s*, having teeth or corrugations on its circumference which are engaged by the point of the spring detent, ratchet, or follower *r*. This screw *a* also carries the wheel *d*, integral with the screw *a*, and having one or more scales graduated on its circumference and adapted to be read by an index *g*, carried by and attached to the end T of the sliding frame. This index *g* is also graduated with English and metric scales, the former corresponding in divisions per inch to the number of threads per inch cut in the screw *a*, the metric scale being divided into millimeters. These divisions are read by the index *i*, attached to the arm Z of the base. This arm Z also carries another index *h*, which traverses the interchangeable scale *j* on the top *e* of the sliding frame. This sliding frame slides in the base *o* and also carries the sliding head *w* P *n* R. This base has two spacing-pins A and B, placed one, two, or more inches apart center to center where English measures are used. In the drawings I have shown them placed two inches apart. These pins A B are adapted to be placed in holes made one inch apart in the saw-table rail J and carriage-rail their entire length. If metric measures are used, the pins may be spaced twenty-five or fifty millimeters apart, or multiples thereof, with holes twenty-five millimeters apart in the saw-table rail or car-

riage-rail. The scale *j* on top of the sliding frame is movable, and different scales may be used. They may be decimal or other fractions of an inch or centimeter. For convenience I prefer to make the screws Q *a* with twenty-five threads to the inch and to graduate the circumference of the wheel *d* into forty parts, so that one-fortieth of a revolution of the wheel *d*—that is, one division indicated by the index *g*—will show a movement of the sliding frame of one one-thousandth of one inch. If the English scale *g* on the side of the sliding frame has one inch divided into twenty-five parts corresponding to the threads of the screw *a* per inch, then one revolution of the screw *a* and wheel *d* will show a movement of one twenty-fifth of one inch. The lower half of this scale may also be graduated into millimeters, so that if the pins A B and holes 0, 1, 2, 3, 4, 5, 6, &c., are placed twenty-five millimeters apart the index *i* will indicate millimeters. The head *n* may have a socket (shown by the dotted lines in all the figures) adapted to receive a pivoted roller R, as shown in Figs. 1 and 2, or a block *x*, having a flat surface next to the saw S, or this block *x* may have a ripper attachment *l*, as shown in Figs. 3 and 4. The ripper attachment may also be made reversible.

The operation of my improvement is as follows: The gage is placed on the table J with the gage-head R next to the saw S, the spacing pin or plug, marked "A," nearest the gage-head being placed in the hole in the rail marked "0." The other pin, marked "B," being two inches from it, will then be in hole marked "2" in the rail J, as shown in Figs. 1, 2, and 3. The head *n* R *l* is then adjusted to the saw S, according to the set of the saw, by the screw Q and thumb-wheel W and is then set by screwing the set-nut X tightly against the arm P to keep the screw Q from turning, this set-nut X being kept in place by the spring-detent Y. After this saw kerf or cut adjustment has been made, as stated, the adjustment of the other part of the gage for any fractional part of an inch to which it is desired to cut the material is made by turning the screw *a* by the thumb-wheel *c*. This screw *a*, threaded through the arm Z and bearing against the arm U and end T of the sliding frame, causes it to move on the base *o* until the desired distance is shown by the index *h*, traversing the scale *j*, or by the wheel *d* or scale *g* and index *i*.

The larger fractional parts of an inch down to, say, one one-hundredth of an inch are shown by the interchangeable scales *j* on the top *v* of the sliding frame and traversed by the index *h* on the arm Z of the base. For finer adjustments the index *g*, attached to the side of the sliding frame, and the graduated wheel *d* may be used and will read to movements of the sliding frame of one one-thousandth of an inch or less, depending on the fineness of graduation of the wheel *d*. After these adjustments for fractional parts of an inch are made (the adjustment for "saw-kerf" having previously been made, as stated) the gage is ready to be placed at any part of the saw-table or carriage-rail which will give the total length, width, or thickness of the material to be cut in feet, inches, and fractional parts of an inch by placing the gage with its pins A and B in the proper holes in the rail. If desired to cut a large number of pieces of the same size to prevent the screw *a* from being turned, and so changing the adjustment, the set-nut *s* may be screwed up tightly against the arm Z.

In the drawings I have shown the gage placed on one side of the saw S; but it is obvious that it may be reversed and placed on the other side of the saw with the "head" toward the saw and the pins A and B in the corresponding holes on the other side of the saw, so that the material may be fed to the saw from either end of the table. The hinged head or ripper attachment *l* is used to square up the gage with the saw S and to allow for spring in material being sawed.

Among the advantages of this gage over others in common use are that it may be set rapidly and accurately without the use of a wrench, that it may be set very rapidly to either large or very small fractions of an inch, and will retain its adjustment for an indefinite period of time and will remain where placed until required to be shifted to another part of the table or carriage, which may be done instantly, thus saving much time, as well as enabling very accurate work to be performed.

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

1. In a movable saw and cutting-gage, a sliding frame having a base, *o*, with spacing-pins, A, B, adapted to fit in perforations in a saw-table rail, J, and having a movable sliding head, *w*, *n*, with an arm, P, and means for shifting and setting said sliding head consisting of an adjusting-screw, Q, having a thumb-wheel, W, set-nut, X, and spring-detent, Y, for the purpose of providing for the width of saw-kerf, substantially as shown and set forth.

2. In a movable saw and cutting-gage, a sliding frame with movable scale, *j*, and having a base, *o*, with spacing-pins adapted to fit in perforations in a saw-table rail, an arm, Z, with an index, *h*, and means for shifting and setting said sliding frame consisting of an adjusting-screw, *a*, thumb-wheels, *c*, *c*, set-nut, *s*, and spring-detent, *r*, and adapted to determine the dimensions of the material to be cut, substantially as shown and set forth.

3. In a movable saw and cutting-gage, a sliding frame with movable scales, *j*, *g*, and having a base, *o*, with spacing-pins adapted to fit in perforations in a saw-table rail and an arm, Z, with indexes, *h* and *i*, and means for shifting and setting said sliding frame con-

sisting of an adjusting-screw, *a*, carrying a graduated wheel, *d*, thumb-wheels, *c*, *c*, set-nut, *s*, and spring-detent, *r*, said graduated wheel, *d*, being arranged to coöperate with the index edge, *r*, and adapted to determine the dimensions of the material to be cut, substantially as shown and set forth.

4. In a movable saw and cutting-gage, a sliding frame with movable scales and having a base, *o*, with spacing-pins adapted to fit in perforations in a saw-table rail and having a movable sliding head with an arm, P, and means for adjusting and setting said sliding head consisting of an adjusting-screw, Q, having a thumb-wheel, W, set-nut, X, and spring-detent, Y, for the purpose of providing for the width of saw-kerf and to determine the dimensions of the material cut, substantially as shown and set forth.

5. In a movable saw and cutting-gage, a sliding frame with movable scales and having a base, *o*, with spacing-pins adapted to fit in perforations in a saw-table rail and an arm and indexes, said frame also having a movable sliding head, *w*, *n*, with an arm, P, and means for shifting and setting said sliding head to provide for the width of the saw-kerf consisting of an adjusting-screw, Q, having a thumb-wheel, W, set-nut, X, and spring-detent, Y, a base, *o*, having an arm, Z, and means to determine the dimensions of the material cut consisting of an adjusting-screw, *a*, carrying the graduated wheel, *d*, thumb-wheels, *c*, *c*, set-nut, *s*, and spring-detent, *r*, substantially as shown and described and for the purposes set forth.

6. In a movable saw and cutting-gage, a sliding frame having a base, *o*, with spacing-pins, A, B, adapted to fit in perforations in a saw-table rail, J, and having a movable sliding head, *w*, *n*, with an arm, P, and a block, *x*, adapted to fit in the socket, *n*, and having at one end a hinged bar, *l*, *l*, capable of being set to square up the gage with the saw and to provide for spring in the material cut and means for setting said hinged bar consisting of an adjusting-screw, N, substantially as shown and set forth.

Signed at New York city, New York, this 9th day of July, 1904.

CLAYTON VON CULIN.

Witnesses:

CHARLES HENRY RONEY,

SEABROOK WADDELL.