

Sheet 1-3 Sheets.

A. R. Austin.

Measuring and Folding Cloth.

N^o 4,994.

Patented Mar 6, 1847.

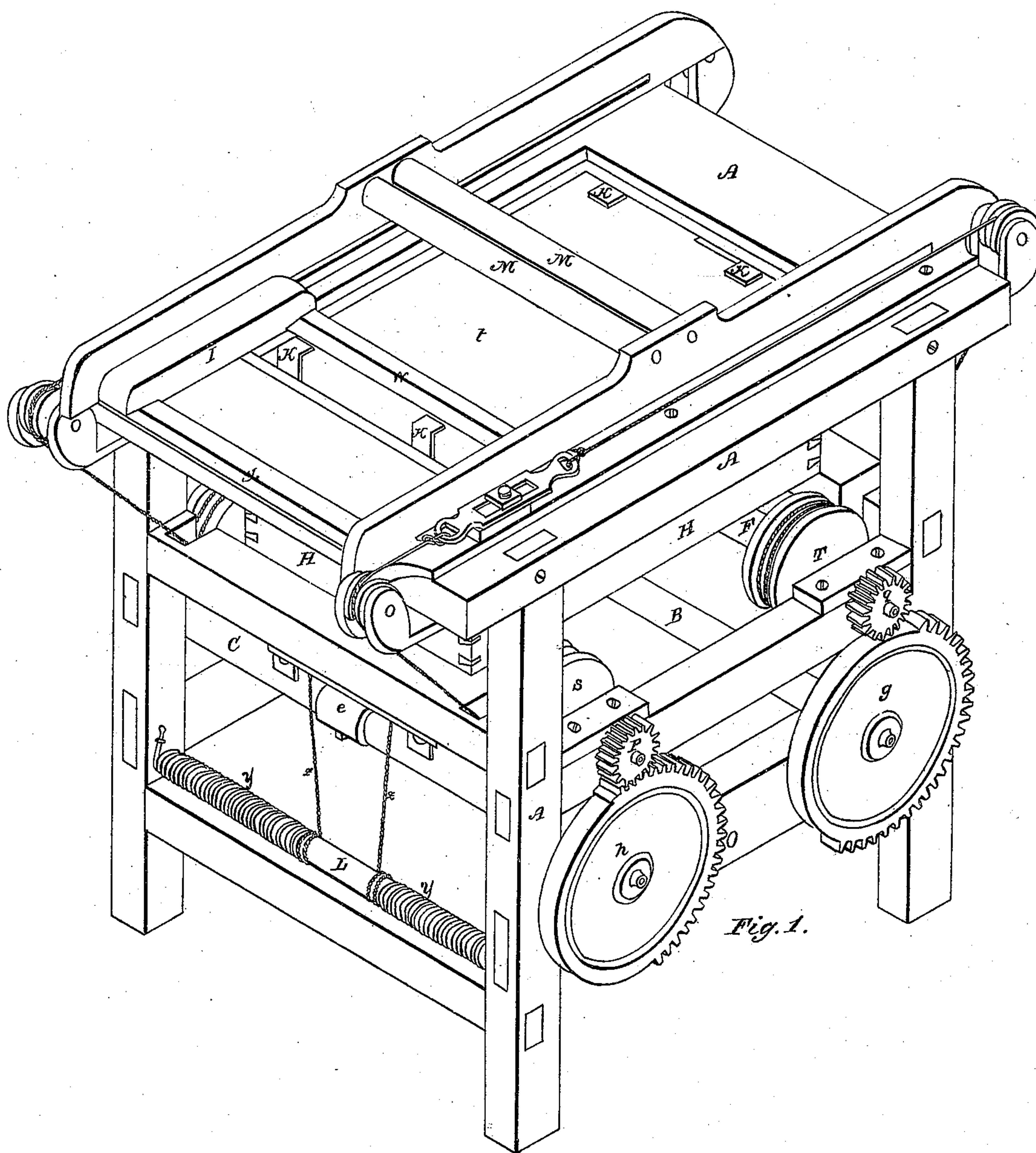


Fig. 1.

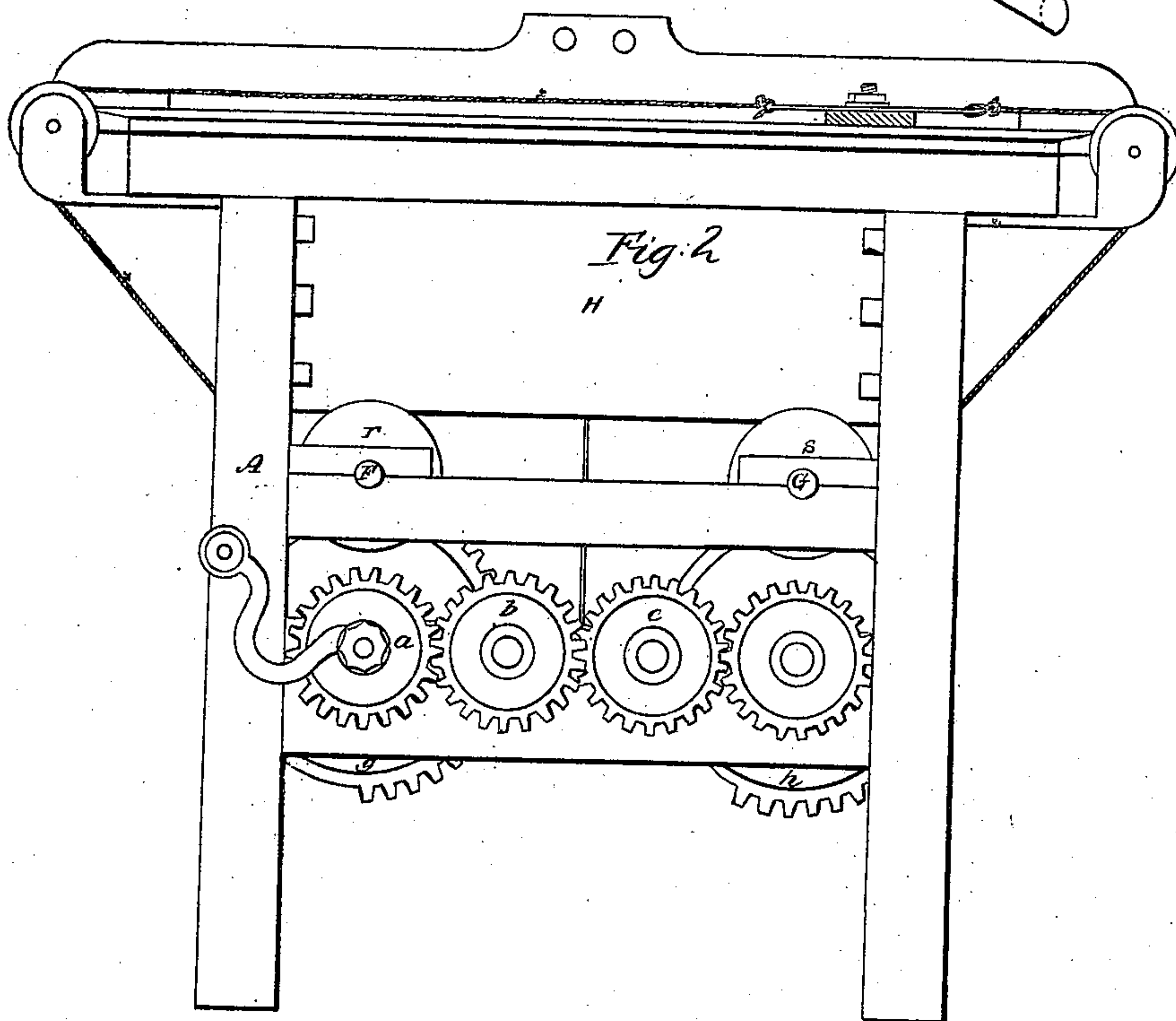
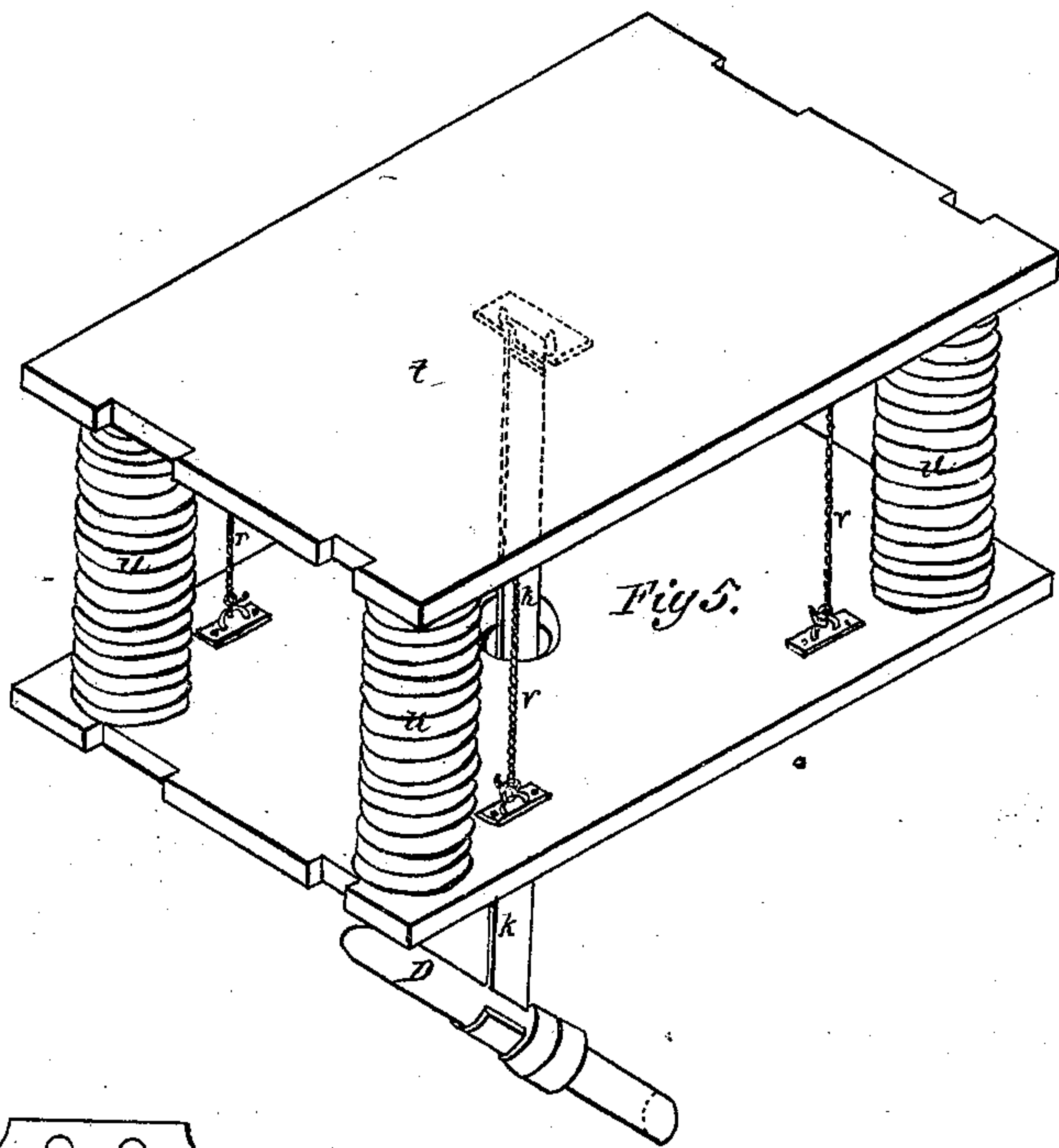
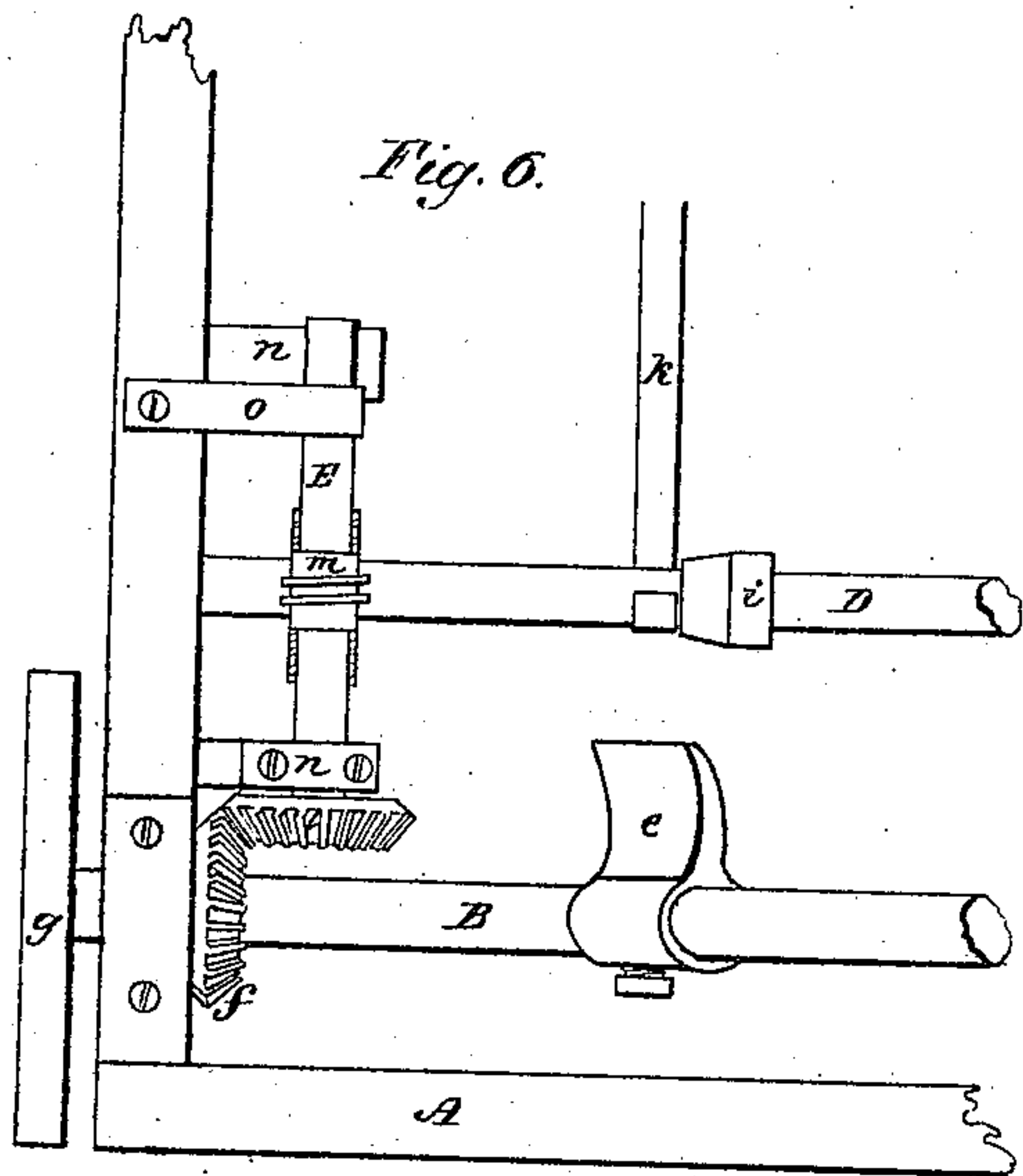
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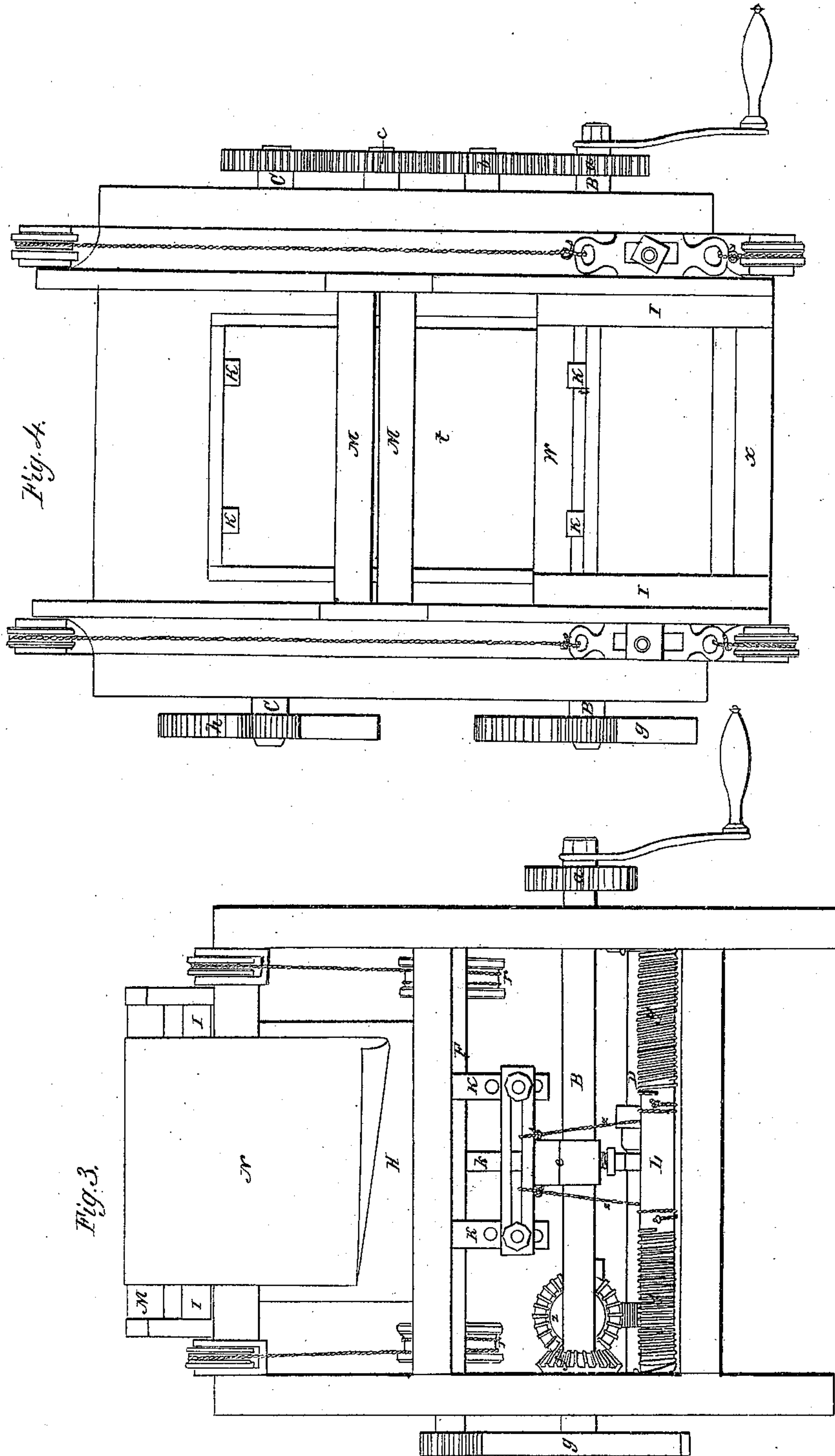


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UNITED STATES PATENT OFFICE.

A. R. AUSTIN, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO SIMEON D. GLINES.

MACHINERY FOR FOLDING AND MEASURING CLOTH.

Specification of Letters Patent No. 4,994, dated March 6, 1847.

To all whom it may concern:

Be it known that I, ARNOLD R. AUSTIN, of the city and county of Providence and State of Rhode Island, have invented a new and useful Machine for Measuring and Folding Cloth, to be known as "Austin's Sliding Lathe for Measuring and Folding Cloth;" and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, which are a part of this specification, in which—

Figure 1, is a perspective view. Fig. 2 is a longitudinal elevation. Fig. 3 is a vertical end view. Fig. 4 is a horizontal view, Figs. 5 and 6 are perspective views of parts not elsewhere plainly shown.

A, Figs. 1, 2, 3 and 4, is simply the support or frame of said lathe, for general form and dimensions see drawings.

B, Figs. 1, 2, 3, 4 and 6 is the main shaft or arbor extending through from side to side to which the power is applied by hand or crank or other means and dispensed to the other parts of the machine. On this arbor are fixed in the usual manner the cog wheel *a* Figs. 2 and 3, also the cam *e*, also a bevel cog wheel *f* also a cam wheel *g*, for the position and general dimensions see drawings.

C, Figs. 1, 2, 3, and 4 is another arbor of like dimension and occupying a corresponding position with B, in the opposite end of the machine, and which revolves by means of two intermediating gears *b* and *c*, Figs. 2 and 4, in a reverse direction from B. On this arbor is fixed another cam wheel *h*, of form and dimensions similar to *g*, on B.

D, Figs. 3 and 6, is another arbor below B and C, but parallel with them near the middle of the machine, to which a slow revolving motion is given by means of a worm and cog as seen at Fig. 6. On this is fixed a gage cone *i*, of diameter varying to correspond with the different thickness of cloth to be measured. To this a band or strap *k*, Figs 2, 3, 4 and 5 is attached for purposes hereafter explained.

E, Fig. 6 is a short arbor on which is fixed a bevel cog wheel *l*, meshing *f*, also the worm *m*. An end of this arbor is fixed in a collar *n*, in which it is kept by means of the spring *o*, but so that it may be conveniently lifted and thrown out of gear when required by lever or other appliance.

F and G, Figs. 1, 2, 3 and 4 are two arbors of like dimensions and are placed above B and C with which they communicate by the small cog wheel *p* and *q*. On each of these arbors is fixed two cones or wheels for chains or bands, one at each end *r* and *s*. These by means of the cams *g* and *h*, revolve together with reverse motion back and forth imparting to the sliding lathe a repeating or vibratory motion from left to right and from right to left one yard each way.

H, Figs. 1, 2, 3 and 4, is the receiving box in which as it is measured the cloth is deposited. It is firmly fixed near the middle and upper part of the machine, is about one yard long in the clear and of width corresponding to that of the widest fabrics to be measured. It is furnished with a compressible bed or bottom *t* Fig. 5 on which the cloth is folded. This bed rests on springs *u*, *u*, and to the center of it is fastened the band or strap *k* that passing down connects with the arbor D, designed by the turning of this arbor to lower said bed just fast enough to make room for the successive folds of cloth. The chords *v*, *v*, Fig. 5 are intended to fix the maximum elevation of said bed.

I, Figs. 1, 2, 3 and 4, represent the sliding lathe that propelled by the cam wheel *g* and *h*, carries the measuring and folding scale *w* and *x*, back and forth on the receiving box. This lathe is formed with projections on each side to which are fixed coupling hooks to which are fastened the ends of the bands or chains passing around the wheels *r* and *s*. These measuring scales *w* and *x*, should be of steel of a length equal to the width of the receiving box and of other dimensions proportional. Their surfaces should be slightly beveled from the middle to each edge.

K, K, Figs. 1, 2, 3, and 4 are holders or receivers placed within the box H, at each end thereof and passing down have their lower ends connected together by a cross bar as plainly seen in Figs. 1 and 3. These may be of any convenient number and form, separated or united as one at top, and they are lifted by the cams *e*, acting on the under side of the cross bar as is explained hereafter more fully.

L, Fig. 3, is an arbor sustaining a range of spiral springs *y*, *y*. To this are fastened a chord or strap *z*, Fig. 3, which runs up and is fastened to the cross bars on the lower

end of the receivers for the purpose of holding down firmly or depressing said receivers after they have been elevated by the cams.

M, Figs. 1, 2, 3, and 4 are rollers between which the cloth passes and by which it is guided as it enters the machine.

N, Fig. 3, represents the cloth entering the lathe between said rollers.

This machine should be formed chiefly of wood and iron, the general form and dimensions and position of its constituent parts are more plainly exhibited by the drawings than can be set forth in writing.

The operation of this machine commences by turning the main arbor B. It will plainly appear by inspection that from this results three distinct yet simultaneous movements. First the horizontal motion of the sliding lathe and scales w and x produced by the cam wheel g and h , by means of the small cogs, the wheels r and s and the chains and coupling hooks as before described. Second, the vertical motion of the receivers K, K, as they are lifted by the cams e , e , and depressed by the spiral springs y , y , and chords z , z . Third the vertical motion of the bed or platform within the receiving box, downward produced by the turning of the arbor D, by the action of the worms and cog wheel seen at Fig. 6, by which the strap k , is wound around said arbor or the cone fixed on the center thereof, just fast enough to depress the bed so as to make room for the cloth as it is folded.

The adjustment of the machine should be such that as the sliding scale w approaches the receiver K, at the left end of the machine Fig. 3 this receiver is drawn down so as to hold firmly the cloth as it is received in fold from the scale. The receiver at the opposite end of the machine also rises, at the moment w passes back over it ready to fasten down upon the next fold as it is re-

ceived from the returning scale x . By this simple arrangement it will be seen that this lathe takes pieces of any length and deposits them in folds or layers of exactly one yard in length or any other required measure, compactly, and with a rapidity and accuracy and a saving of manual labor heretofore unknown, saving also the fabric from the perforatives caused by the hooks heretofore employed.

I claim as my invention—

1. The employment of a horizontal sliding lathe with measuring and folding scales or bars that fold and deposit the cloth in layers of one yard or any other exact measure, also the use of receivers or holders that operate in connection with the sliding lathe to receive and firmly hold from slipping the successive layers of cloth as they are distributed by the folding scales.

2. Also the use of a compressible bed or platform on which the cloth is deposited that operating in connection with the sliding scales and receivers shall gradually lower to make room for the cloth as it is folded thereon.

3. I do not construe any claim to originality in these three particulars as depending upon the use of the exact set, or form or size of wheels, springs or other fixture set forth in these drawings, but I claim the invention of the above, or any analogous combination that shall operate to produce like results, by which cloth or other like fabrics are deposited in compact folds of one (1) yard in length or any other required measure by means of a sliding lathe, receivers and a compressible bed.

ARNOLD R. AUSTIN.

Witnesses:

STEPHEN ATWATER,
N. B. SCHUBARTH.