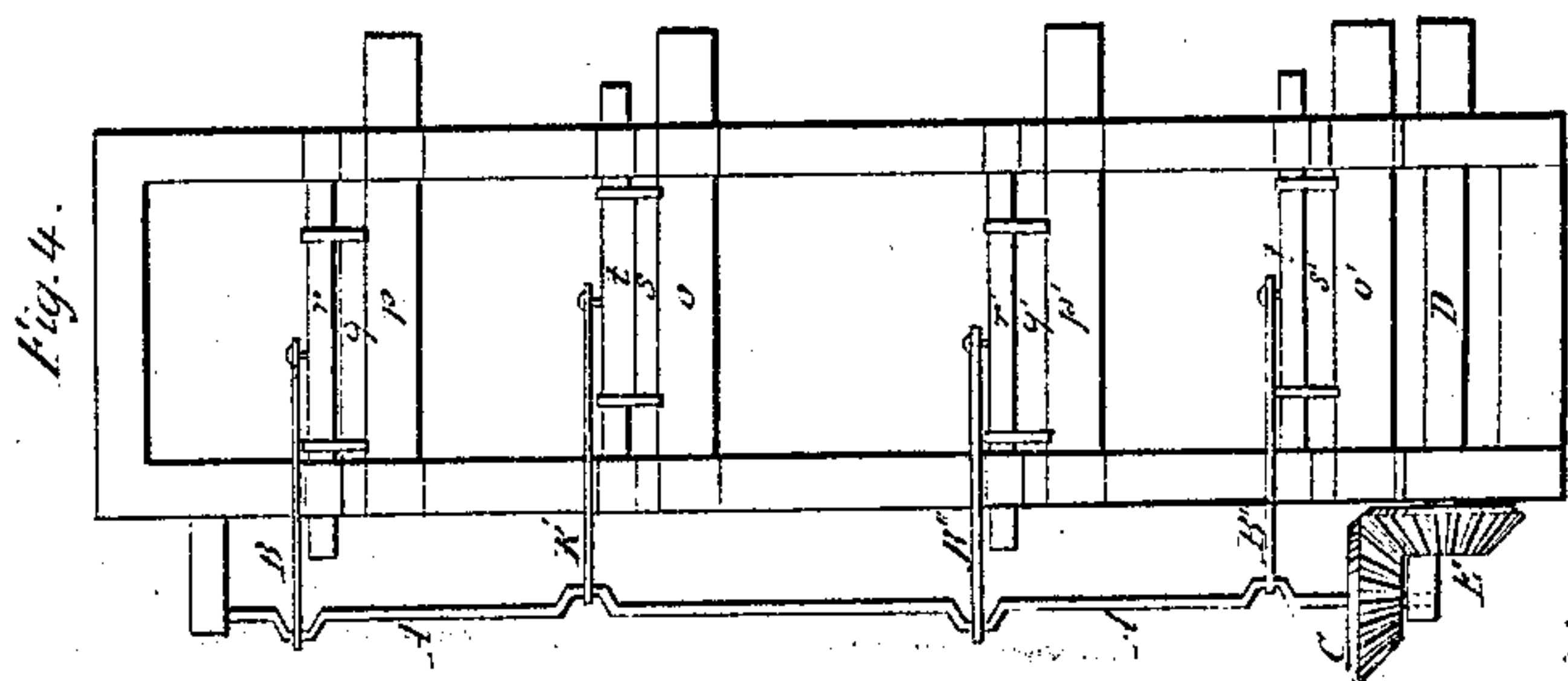
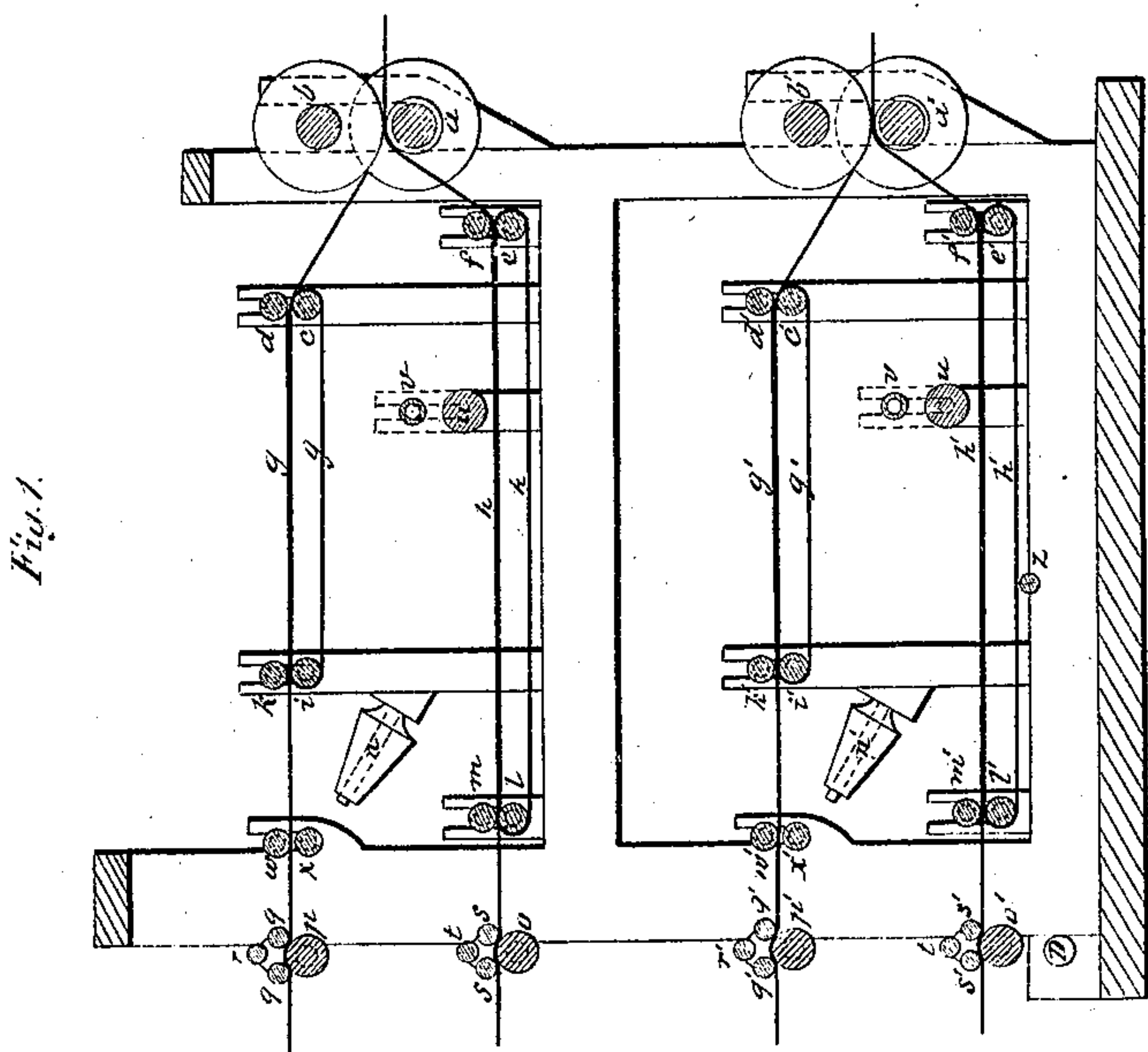
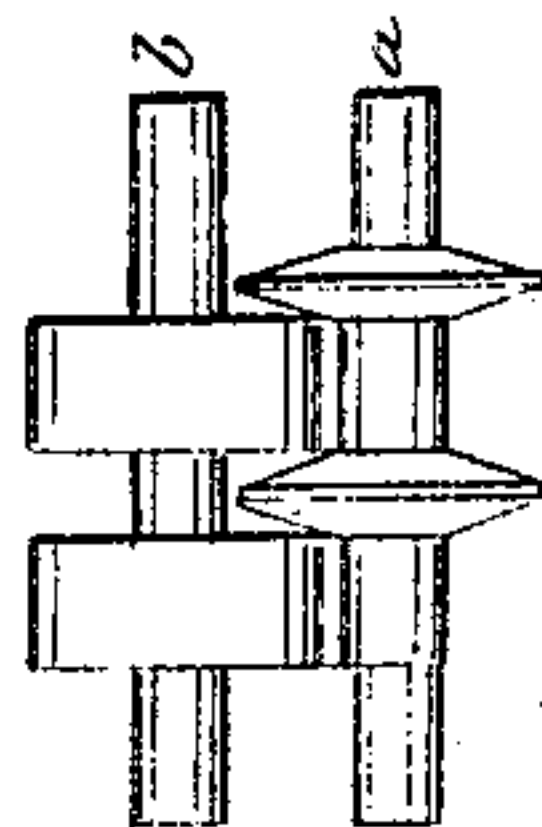
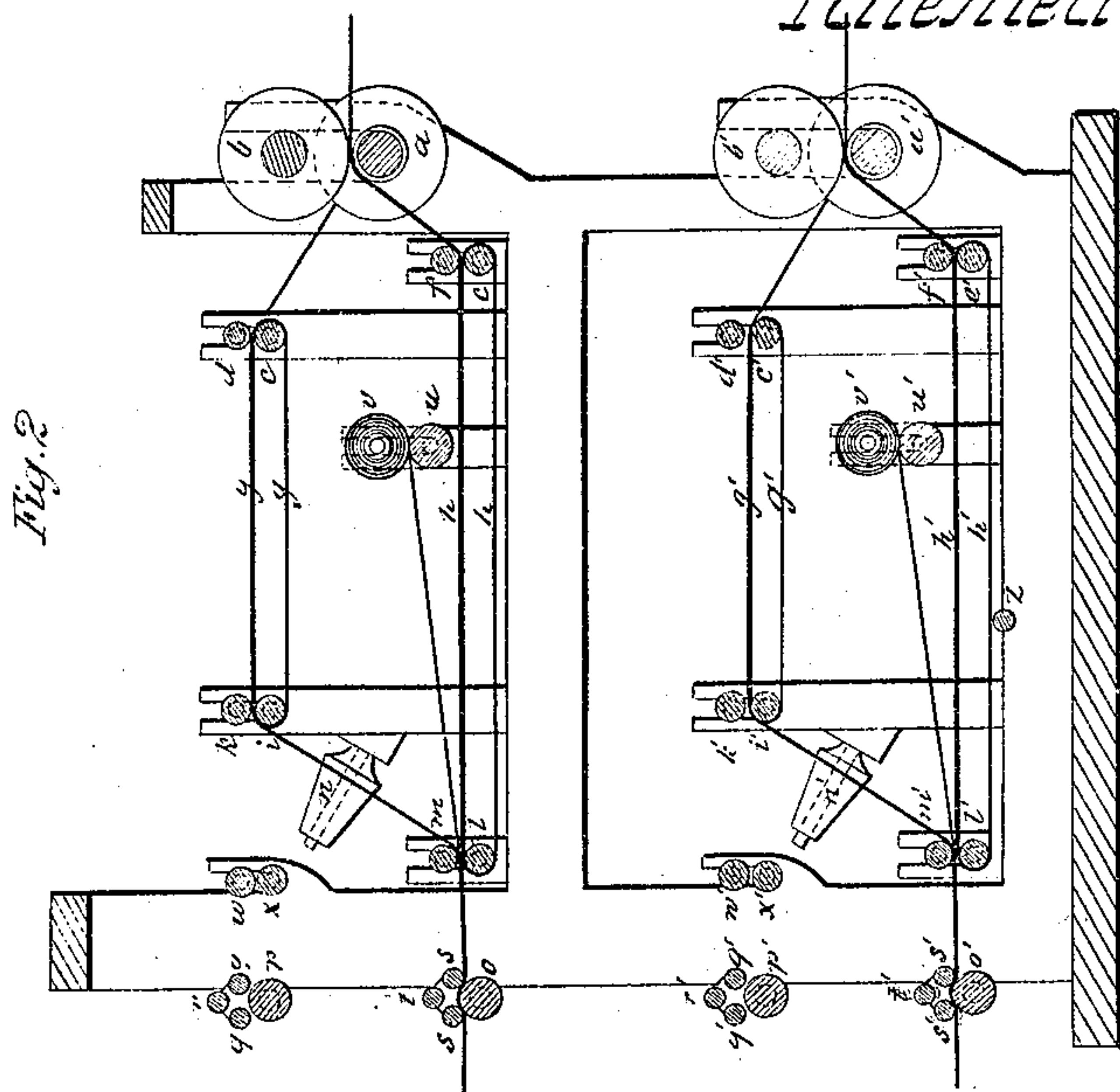


J. Taylor. Yarn Making Mach.

N^o 12,040.

Patented Dec. 5, 1854.



Witnesses
A. B. Beck
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Inventor.

J. Taylor

UNITED STATES PATENT OFFICE.

JAMES TAYLOR, OF NEWARK, NEW JERSEY.

COVERING COTTON THREAD WITH WOOL.

Specification of Letters Patent No. 12,040, dated December 5, 1854.

To all whom it may concern:

Be it known that I, JAMES TAYLOR, of Newark, in the county of Essex and State of New Jersey, have invented a new and
5 useful Improvement in Machinery for Making Yarn; and I do hereby declare that the following is a full and exact description thereof, reference being had to the annexed drawings, forming part of this specification, in which—

10 Figure 1 is a side sectional view showing the application of my machine to the making of ordinary woolen yarn. Fig. 2 is a side sectional view showing its application to the making of yarn composed of wool and cotton combined together. Fig. 3 is a view of my improved grooved rollers. Fig. 4 is an end view of the machine complete.

Similar letters refer to like parts.

20 Red colored lines, in all the figures, represent the woolen web; and blue colored lines, in all the figures, represent the cotton web or thread.

A is an upright shaft; B, B¹, B², B³, connecting rods; C, gear wheel; D, shaft; E, cogwheel; *a a'* lower grooved rollers; *b b'*, upper grooved rollers; *c c'*, belt rollers; *d d'*, pressing rollers; *e e'*, belt rollers; *f f'*, pressing rollers; *g g'* and *h h'*, endless belts; *i i'*, belt rollers; *k k'*, pressing rollers; *l l'*, belt rollers; *m m'*, pressing rollers; *n n'*, guide rollers; *o o'*, *p p'*, discharge rollers; *q q'*, *r r'*, *s s'*, *t t'*, rubbing rollers; *uu'*, driving rollers; *v v'*, cotton spools; *w w'*, pressing rollers; *x x'*, guide rollers; *z*, driving shaft.

35 The woolen threads of which the yarn is to be composed are taken from the card machine and caused to enter my machine between the rollers *a a'*, *b b'*. The threads are spread out in the form of a flat web, when they leave the card machine and as they come in between my rollers *a a'* *b b'* they are pressed between the same. The rollers *a a'* are furnished with shoulders as seen in Fig. 40 3. The rollers *b b'* have corresponding grooves and projections; so that the shoulders on *a a'* fit into corresponding grooves on *b b'*, while the projections on the rollers *b b'* enter between the shoulders on *a a'*.
45 In this manner the yarn, which is indicated by the red color (Fig. 3) is pressed between the two rollers, *a a'*, *b b'*, with any force that may be desired.

55 The shoulders on the rollers *a a'* have an important office, which is to separate the threads or webs that are intended to com-

pose one yarn from the threads or web that are to compose another yarn and prevent any possibility of their hanging together. The shoulders on the rollers *a a'*, it will be
60 observed, are conical, and as they reach up so as almost to touch the central part of the rollers *b b'*, it is manifestly impossible for the threads or webs composing one yarn to be intermixed or hang on to the threads
65 composing another yarn. By this simple and effectual means of separating the threads for different yarns, I am enabled to double the number of webs running through the carding machine. It is usual
70 in practise to run twenty webs through the carding-machine at a time; but by my improved separating rollers I am enabled to take forty webs from the ordinary carding-machine without any difficulty.

75 The webs having been received from the carding machine and passed between the rollers *a a'* and *b b'* (Fig. 1), in the manner described, they thence pass onward as seen by the red-colored lines in Fig. 1. One of
80 the webs passes upward between the belts *g g'* and rollers *d d'* *k k'*, thence onward through the rollers *w w'* *x x'* till it comes between the discharge-rollers *p p'* and the rubbing-rollers *q q'* *r r'*, where the web is
85 rolled up and is discharged from the machine in the form of yarn ready for the spinning machine. The other web passes down from the rollers *a a'* *b b'* between the rollers *f f'* *m m'* and the belt *h h'*, through
90 the discharge-rollers *o o'* and the rubbing-rollers *t t'* *s s'*.

The manner in which cotton thread is combined with woolen yarn is shown in Fig. 2. The woolen web is received from the
95 carding-machine in the manner before described. One of the webs passes upward from the rollers *a a'* between the rollers *d d'*, *k k'* and the belt *g g'*; thence downward over the guide-rollers *n n'* and the rollers
100 *m m'*, where it joins the lower webs, and is discharged from the machine. The other woolen web is taken from the rollers *a a'* *b b'*, and passes downward between the rollers *f f'* and the belt *h h'* along which
105 latter it passes until it arrives at the rollers *m m'* where it is joined by the other woolen web represented by the upper red colored line, and also by the cotton thread, which is represented by the blue colored line. In this
110 manner all the webs are united and pass on between the discharge-rollers *o o'* and the

rubbing rollers $s s'$ $t t'$ and issue from the machine combined in one yarn, the cotton lying in the center and being completely covered up by the woolen. In this manner
 5 I am enabled to produce a yarn, the interior of which is composed of cotton material, while the exterior is of woolen, the cotton, or cheaper material being so effectually covered and concealed as to render it impossible
 10 for the eye to detect the presence of any cotton, without breaking the yarn. From yarn thus composed goods may be made, which, while a large portion of cotton is employed, still have the appearance of pure
 15 woolen and are, in use, almost as durable.

The guide-rollers $n n'$ are attached to the frame of the machine, and their office is to guide the upper webs over to one side of the machine, in order that the upper webs may
 20 properly unite with the other webs at $m m'$ (Fig. 2).

When my machine is being used for combining the cotton with the woolen the rollers $p p'$, $q q'$, $r r'$, $w w'$, $x x'$, are not employed,
 25 as will be seen in Fig. 2. When my machine is employed in producing pure woolen yarn the guide-rollers $n n'$ and spools $v v'$, and driving-rollers $u u'$ are not employed, as seen in Fig. 1.

30 The whole machine is put in operation by means of the driving-shaft z , where the power is applied. It is communicated to the various parts from z , by means of the bands and belts, in any of the ordinary forms.

The rubbing-rollers $q q'$, $r r'$, $s s'$, $t t'$, have 35 a vibratory motion which is communicated to them by means of the shaft A, which is furnished with a suitable number of cranks, from which connecting rods B, B¹, B², B³ extend to the top of the rubbing-rollers in 40 the manner seen in Fig. 4. The shaft A, is put in motion by the gear-wheel C, to which it is attached; and C is put in motion by the shaft D, having at one end a cog-wheel E.

The spools $v v'$ are put in motion by 45 means of the driving-rollers $w w'$, there being shoulders on the spools $b b'$, which fit into corresponding grooves on the driving-rollers $u u'$, by which means the spools containing the cotton are unrolled regularly 50 and equally.

Having thus described my invention I claim—

1. The mechanism herein described for making yarn, when the various parts of the 55 machine are combined and arranged in the manner and for the purposes substantially as set forth.

2. The employment of the rubbing rollers $q, q', r, r', s, s', t, t'$, in combination with 60 the arrangement of mechanism herein described and shown for uniting the bands of wool around the cotton thread; substantially as set forth.

JAMES TAYLOR.

Witnesses:

A. E. BEACH,
 A. BRUEN.