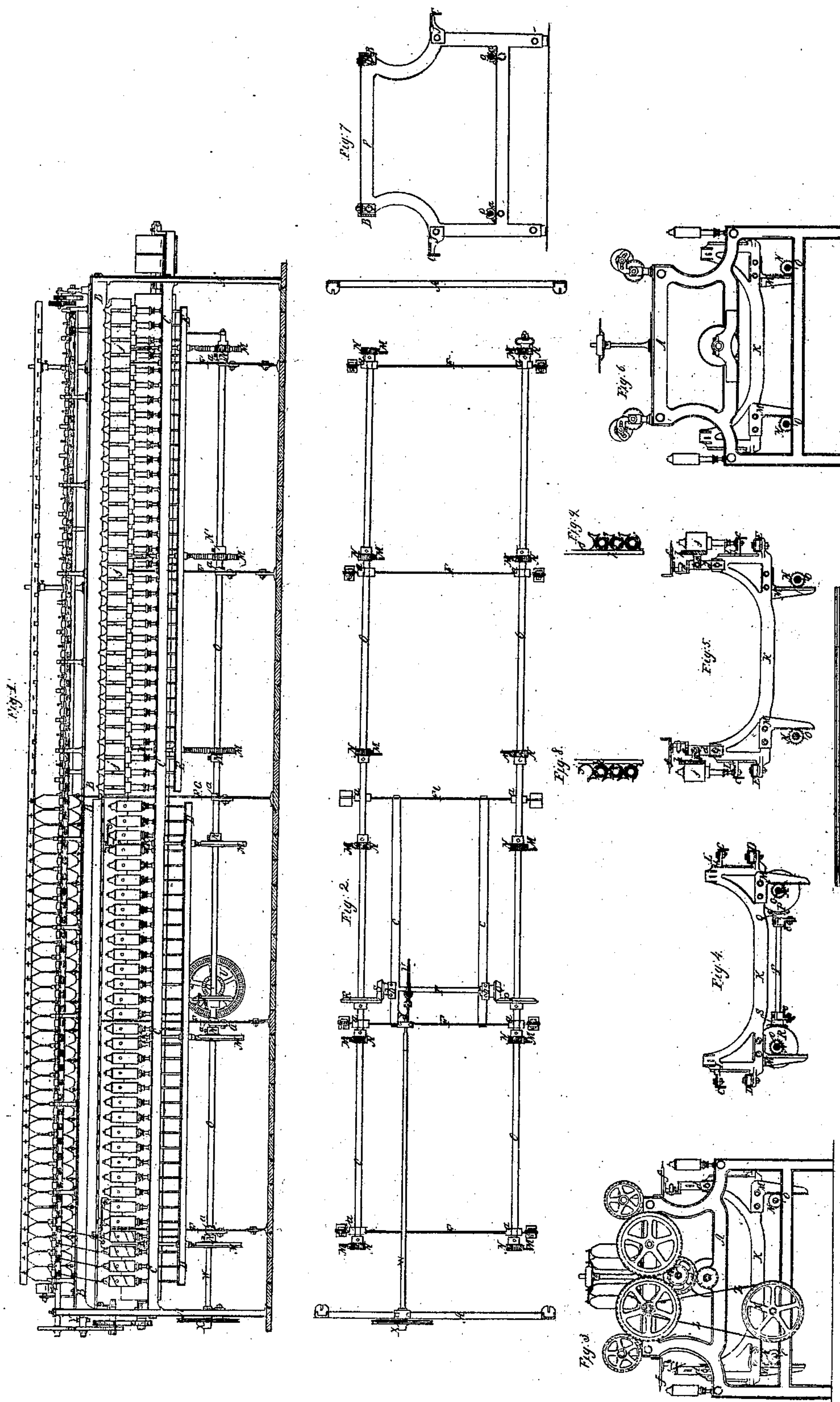


C. DANFORTH.
SPINNING THROSTLE.

No. 12,055.

Patented Dec. 12, 1854.



UNITED STATES PATENT OFFICE.

CHARLES DANFORTH, OF PATERSON, NEW JERSEY.

THROSTLE FOR SPINNING COTTON.

Specification of Letters Patent No. 12,055, dated December 12, 1854.

To all whom it may concern:

Be it known that I, the undersigned, CHARLES DANFORTH, of the city of Paterson, in the county of Passaic and State of New Jersey, have invented a new and useful Improvement on the Spinning Machine Commonly Called the Danforth Frame or Cap Spinner, of which the following is a full and exact description.

The drawings hereunto annexed and which I desire may constitute a part of this specification are drawn to a scale of one and a half inches to one foot and consist of nine parts as follows, viz—Figure 1 is a front elevation view of the machine, the left hand half on section from the center without the guards showing the full size of the caps, and the traverse nearly down, and the right hand half or section with the guards on the traverse nearly up to the top, Fig. 2 is a ground plan or section of the frame cut off just below the spindle rails showing the plan of working the traverse with frame ends, supports, &c., in section. Fig. 3 is an elevation view of the geared end of the machine complete Fig. 4 is a cross section, near the center of the left hand section showing how the spindle rails are supported, connected together on both sides of the machine and made to traverse by means of racks and pinions, Fig. 5 is a cross section through the center of the right hand section showing the same. This figure shows the spindles, bobbins, caps tin guards and guide wire boards, Fig. 6 is an elevation view of the driving end of the machine with the guards and wire boards left off, Fig. 7 is a cross section showing the form of center supports and the way they are secured to the roller beam and tube rails, Figs. 8 and 9 are ground sections showing the top of the tin guards and caps. The same letters in all the figures show the same parts of the machine.

Letter A, A, is the frame ends.

Letter B, B, is the roller beams.

Letter C, C, is the tube rails.

D, D, is the spindle rails on the left hand section which are represented as nearly at the bottom of the transverse.

E, E, are the spindle rails on the right hand section which are represented as near the top of their transverse.

F, F, F, F, are the middle supports which are secured to the roller beams by the

brackets I I by means of a bolt and nut through the middle supports and another through the roller beam and to the tube rail C, C, by means of the brackets J, J, which are bolted to the middle supports and tube rails, these brackets are used for the convenience of fitting in the supports and affording facility for leveling the roller beams and tube rails. It will also be observed that on the supports are bolted brackets at the bottom forming a foot to rest on the floor which is adjustable by means of slots.

The center support F, O, passes through between the flanges on the ends of the roller beams and is secured to them in the usual manner with bolts and nuts and the brackets or flanges for securing it to the tube rails are cast on, and the legs or bottom part are made of a width to correspond with the frame ends. The others are contracted at the bottom to make room for the spindle rails and to allow them to traverse. The traversing of the tubes on the spindles as now in common use increases the angle and causes an unequal tension on the bands and the object of this improvement is to obviate these difficulties, instead of traversing the tube rails ad tubes. I cause the spindle rails, spindles, caps, tin guards and guide wire boards to traverse together while the tube rails which support the tubes and bobbins are stationary so that instead of the tubes traversing on the spindle, the spindle traverses through the tubes. It is however necessary to effect this that while the spindle rails are made to traverse up and down freely that they should be firmly supported to prevent any vibration or tremor. To secure this object I permanently fasten the spindle rails together on the two different sides of the machine in two sections by means of a suitable number of cross supports, K, K, K, K. These cross supports have flanges on each end, on which the spindle rails are securely bolted. They are about three eighths of an inch thick except on their front edges where a rib of about one eighth of an inch in thickness is added to each side and about a half an inch deep. These are planed up and fitted so as to be perpendicular to the spindle rails and to fit forks or slots in small brackets, L, L, L, L. These brackets form guides for the spindle rails as they slide up and down and pre-

vent them from having any lateral motion. These brackets should be slotted for the bolts which fasten them to the tube rails so that they may be adjustable.

5 On each of the cross supports K, K, K, K, are securely fastened with two bolts each, two toothed racks M, M, M, M, M, M, M, M, M, M. These racks project downward and are fitted so that their faces will stand
10 plumb, and gear in two toothed wheels or pinions, N, N, N, N, N, N, N, N, N, N which are placed on and secured with set screws to two parallel shafts O, O. These shafts are geared together by means of two pairs
15 of bevel wheels, P Q and R, S, and the cross shaft T on this cross shaft T, is fixed the mangle wheel V which is worked by a small pinion V fastened to the end of the mangle shaft W, and this mangle shaft is put in
20 motion by a grooved pulley X on its outer end, a small grooved pulley Y on the inside of the intermediate gear wheel for driving the rollers, and an endless band Z—on reference to the drawings it will be perceived
25 that the racks on the right hand section are placed on the inside of the pinions, while those on the left hand section are on the outside of the pinions. This arrangement causes one section of the spindle rails and
30 all that is attached to them to rise while the other section falls, and thus the two sections counterbalance each other, and cause the whole traverse to work with remarkable ease.

35 The parallel shafts O, O rest in pedestals or stands a, a, a, a, a, a, a, a, a, a which are bolted to the middle supports F and the cross shaft T is supported by pedestals b, b, which are fastened to two parallel bars or
40 rails c, c which pass between two of the middle supports and are secured to them by bolts and nuts.

On the upright parts of the cross supports K, K, K, K, are bolted upright pieces
45 or slides d, d, d, d shown in Figs. 3 and 5

to support and carry the tin guards and guide wire boards. The top of these slides are turned over at right angles forming a flange on which is bolted stands e, e, e, e which
50 carry the guide wire boards f, f, f, f these are supported by socket brackets and studs in the usual manner. There is also bolted to the upright pieces d, d, d, d angle brackets g, g, shown at Fig. 5 which carry and support
55 the boards h, h, to which are fastened the tin guards j, j, j, j. The spindles, tubes, caps, gears, rollers, &c., being similar to those in common use and well understood I deem it unnecessary to describe them.

I have described the spindle rails as connected together from side to side in two
60 sections and made to counterbalance each other by the construction and arrangement of the traverse work, but it is obvious they might be made in four sections and the same
65 end attained. The same motion might also be given to the spindle rails by means of an eccentric or heart motion as is produced by the mangle wheel and rack and pinions.

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

The connecting together the spindle rails from side to side of the frame in two or
more sections, connecting the guards and
75 guide wire boards with the spindle rails so that they will traverse with them, and constructing and arranging the traverse movements so that the different sections will counterbalance each other essentially as described, in this specification. 80

In testimony whereof I the said CHAS. DANFORTH hereto subscribe my name in presence of the witnesses whose names are hereto subscribed on the 4th day of October A. D. 1854.

CHAS. DANFORTH.

Signed in our presence:

DANIEL L. HATHEWAY,
W. E. STEPHENS.