

Slade & Scranton. Spinning Mach Throstle.

N^o 29,527.

Patented Aug. 7, 1860.

Fig. 2.

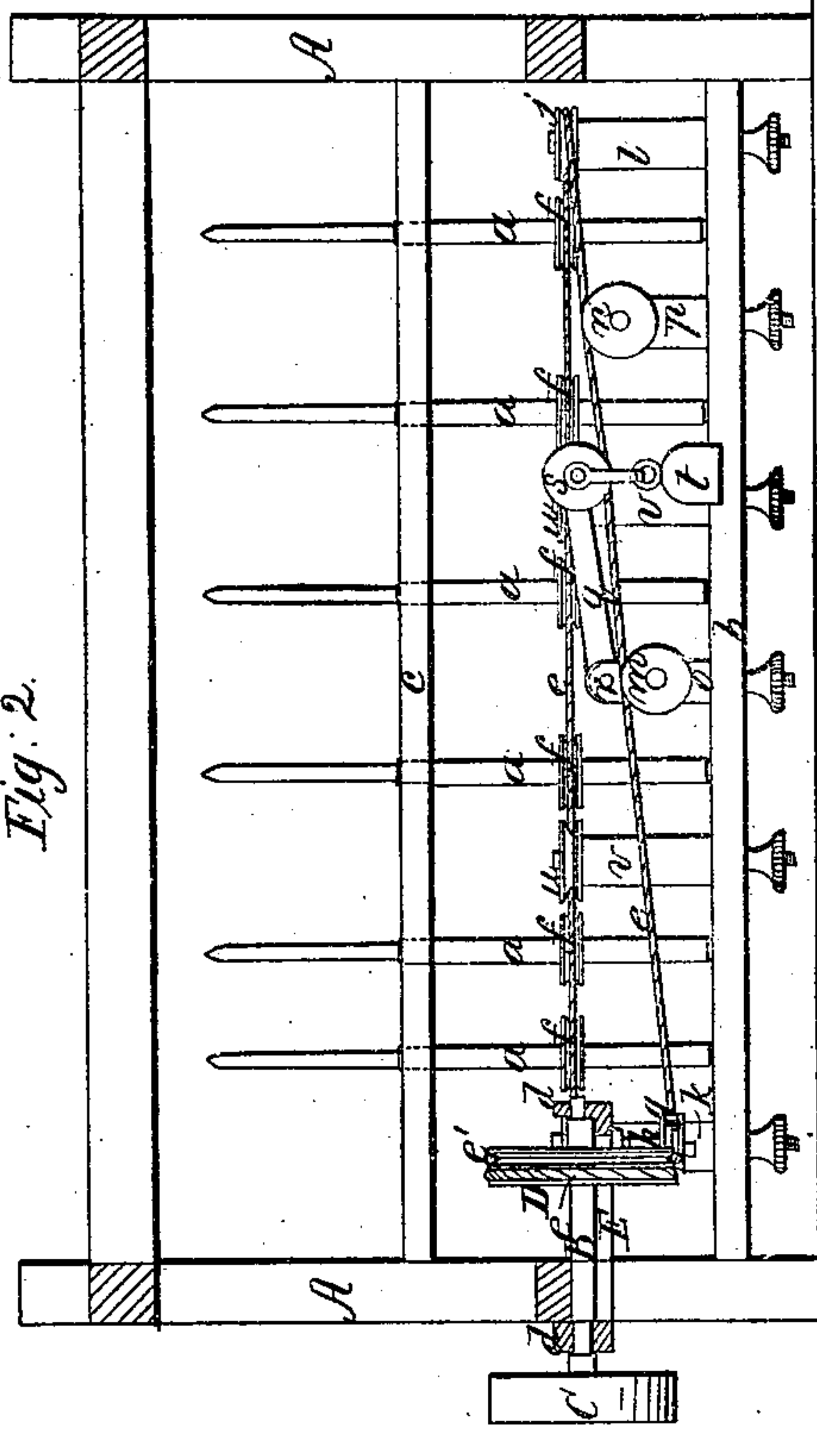


Fig. 3.

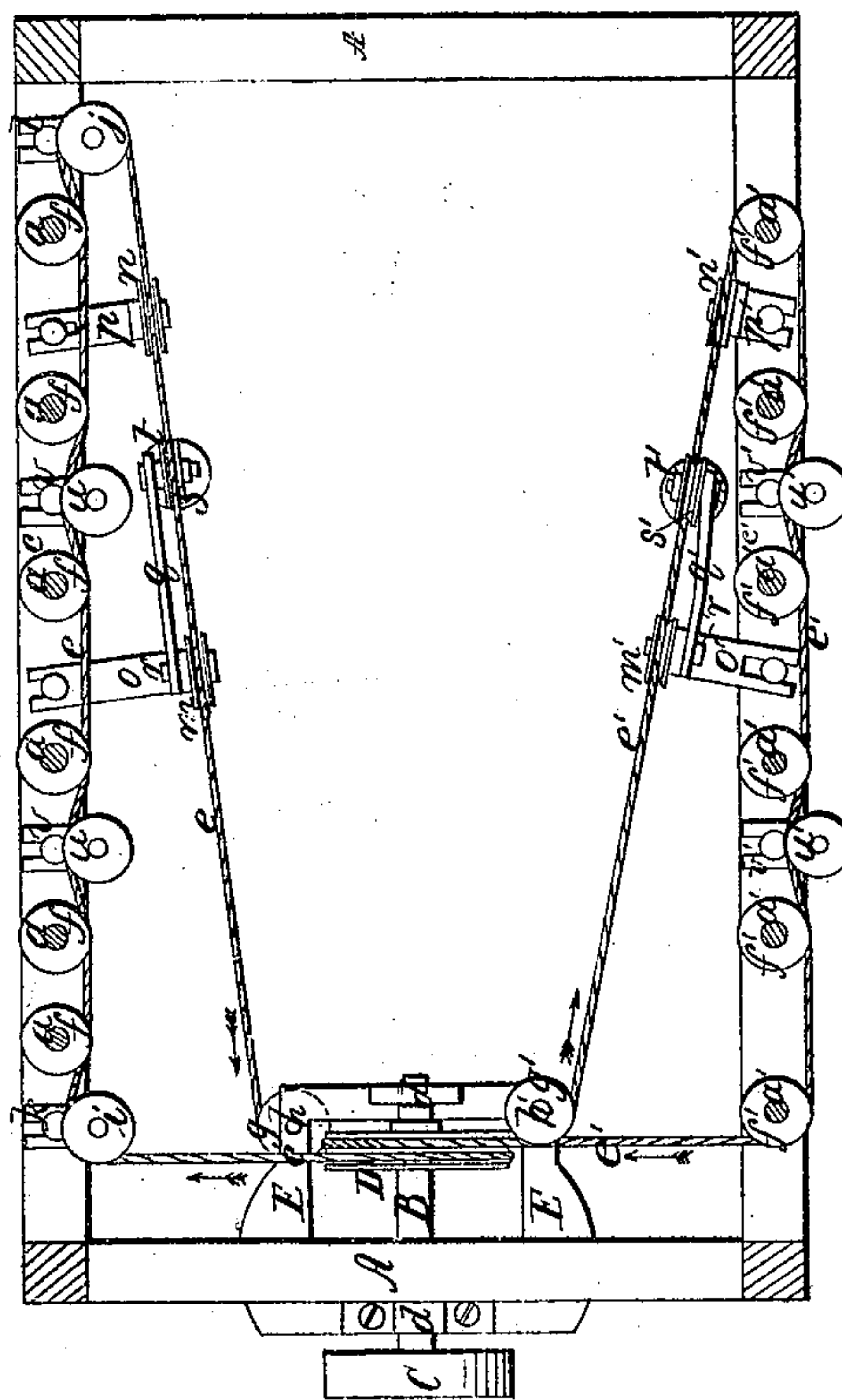
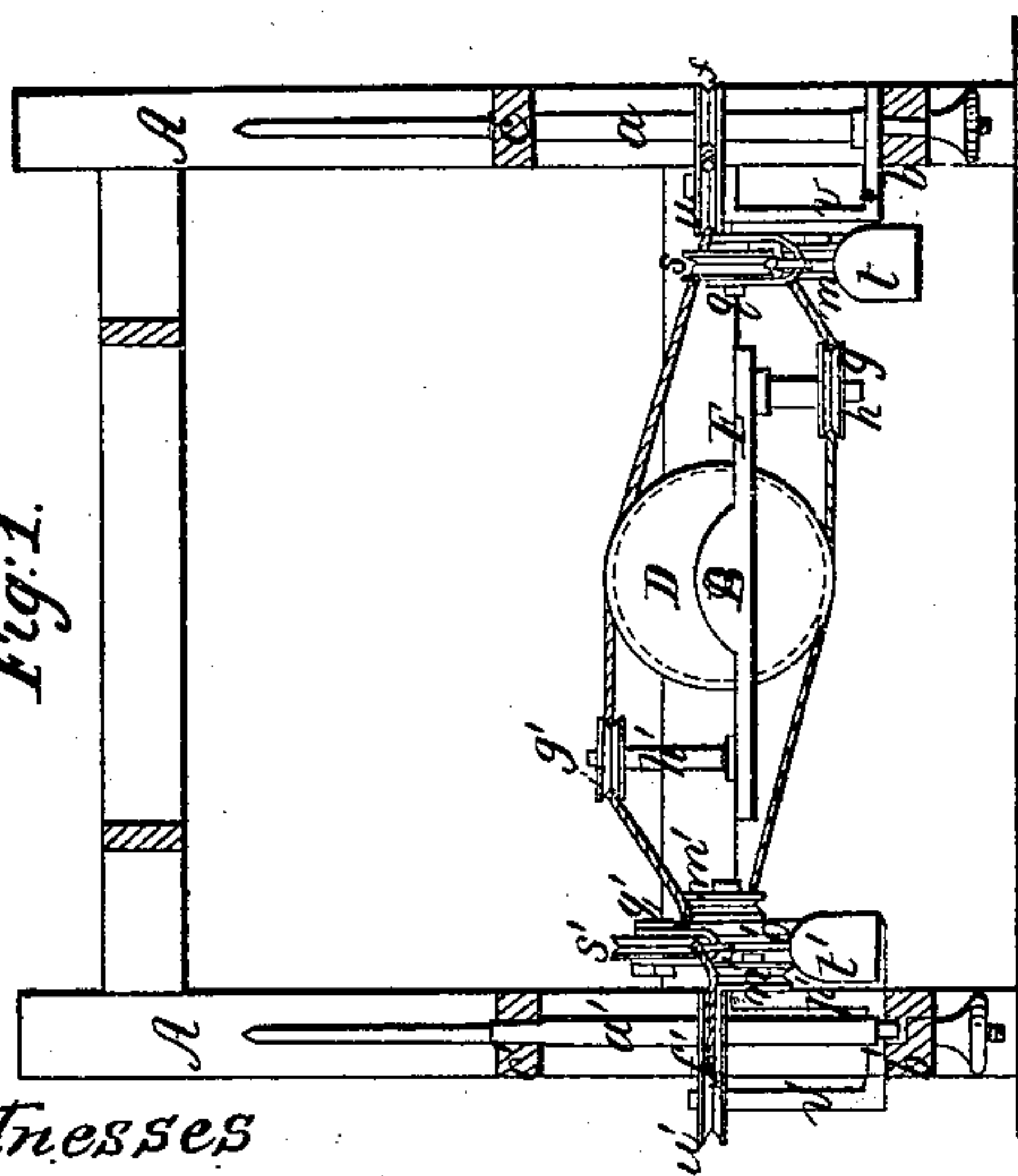


Fig. 1.



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UNITED STATES PATENT OFFICE.

NORMAN H. SLADE AND JOHN N. SCRANTON, OF BENNINGTON, VERMONT.

DRIVING-BAND FOR SPINNING-FRAMES.

Specification of Letters Patent No. 29,527, dated August 7, 1860.

To all whom it may concern:

Be it known that we, NORMAN H. SLADE and JOHN N. SCRANTON, both of Bennington, in the county of Bennington and State of Vermont, have invented a new and Improved Arrangement of Driving Bands and Pulleys for the Spindles or Fliers of Spinning-Frames; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a transverse vertical section of a spinning frame with our invention applied. Fig. 2 is a longitudinal vertical section of the same. Fig. 3 is a horizontal section of the same.

Similar letters of reference indicate corresponding parts in the several figures.

To enable others skilled in the art to make and use our invention we will proceed to describe its construction and operation.

A, is the main frame, *a, a*, are the spindles on one side, and *a' a'* the spindles on the opposite side of the frame, supported in the usual manner in the step rails *b, b'*, and kept upright by the guide-rails *c, c'*.

j, j, and *f', f'*, are the whirls of the spindles.

B is a short central shaft arranged in bearings *d, d*, in a frame E, bolted to one end of the main frame A, furnished with a pulley C, which receives its driving belt and with a double pulley D, which receives the two long endless bands *e, e'*, the latter for driving the spindles *a' a'*, on one side of the frame and the former for driving the spindles *a a* on the other side.

g and *g'*, are guide pulleys arranged to turn freely on fixed upright studs *h* and *h'*, secured to the frame for the purpose of guiding the bands *e* and *e'*, from the pulley D, to the whirls of the spindles or from the said whirls to the said pulley, according to the directions of their respective revolutions.

i and *j*, are horizontal guide pulleys supported by standards *k* and *l*, erected upon the step rail *b*, one at each end of the row of spindles *a a*, to make the band *e*, hug the inner of the whirls of the two spindles at the ends of the row. Such guide pulleys are rendered unnecessary on the opposite side of the frame by the band *e'*, running against the outer sides of the whirls on that side, and passing farther around the whirls of

the spindles at the end of the row, as will be understood by reference to Fig. 3.

m and *n*, are vertical guide pulleys supported at some distance apart by brackets *o* and *p*, secured to the step rail *b*, and arranged at some distance apart to support the long inner portion of the band *e*, which extends from the guide pulley *g*, to the farther end of the series of spindles *a a*, without touching their whirls; and *q*, is a lever working upon a fixed fulcrum *r*, attached to the bracket *o*, and carrying a pulley *s*, and a weight *t*, by which the said lever is loaded to make the latter pulley press upon the band *e*, between the pulleys *m* and *n*, and thereby preserve a uniform tension thereof notwithstanding any atmospheric changes.

m' and *n'* are pulleys, like *m*, and *n*, supported by similar brackets *o'*, and *p'*, secured to the opposite step rail *b'*, for the purpose of supporting the long portion of the band *e'*, which extends from the guide pulley *g'*, to the farther end of the series of spindles *a', a'*, without touching their whirls; and *q'* is a lever, like *q*, working upon a fixed fulcrum *r'*, attached to the bracket *o'*, and carrying a pulley *s'*, and a weight *t'*, by which the latter pulley is made to press upon the band *e'*, between the pulleys *m'*, and *n'*, and thereby produce a uniform tension of that band under all atmospheric changes.

u, u, are guide pulleys supported by standards *v, v*, erected upon the guide rail *b*, for the purpose of making the band *e*, assume a curved form in contact with the inner sides of the whirls *a, a*, and so making it hug all the said whirls; and *u', u'*, are similar guide pulleys supported by standards *v', v'*, erected upon the step rail *b'*, for the purpose of making the band *e'*, assume a curved form in contact with the outer sides of the whirls *a', a'*, and so making it hug the said whirls.

The guide pulleys *u u*, and *u' u'*, in the example of our invention represented, are arranged only one between alternately adjacent spindles as shown in Fig. 3, as that will generally be sufficient, but they might be arranged one between every two adjacent spindles.

The endless band *e*, runs from the pulley D, around the guide pulley *i*, between the inner sides of the whirls *a a*, and the outer sides of the guide pulleys *u u*, around the guide pulley *j*, over the guide pulley *n*, un-

der the loaded pulley *t*, over the guide pulley
m, and around the guide pulley *g*, back to
the driving pulley D. The corresponding
band *e'*, runs around the guide pulley *g'*,
5 over *m'*, under the loaded pulley *t'*, over the
guide pulley *n'*, around the whirls *f'*, of the
end spindles *a'*, between the inner sides of
the other whirls *f'*, *f'*, and outer sides of the
guide pulleys *u'*, *u'*, and back to the pulley
10 D, and these bands drive the whole of the
spindles, each one driving those on one side
of the frame and being caused to press
equally on the whirl of each one of its re-
spective spindles by its loaded tension pulley
15 *t*, or *t'*, thus producing a uniform friction
on all the whirls, and causing all the spin-
dles to be driven at a uniform velocity under
all circumstances.

The bands may be applied in the same
way to the whirls of fliers or caps arranged 20
to rotate on fixed or dead spindles.

We do not claim broadly the driving of
all the spindles, fliers or caps on one side of
the frame by a single band, but

What we claim as our invention, and de- 25
sire to secure by Letters Patent, is—

The arrangement of the guide pulleys *g*,
g', adjustable guide pulleys *n*, *n'*, *m*, *m'*,
i, *i'*, bands *e*, *e'*, pulley D, and loaded tight-
ening pulleys *s*, *s'*, as and for the purpose 30
herein shown and described.

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JOHN N. SCRANTON.

Witnesses:

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JOHN SIBLEY.