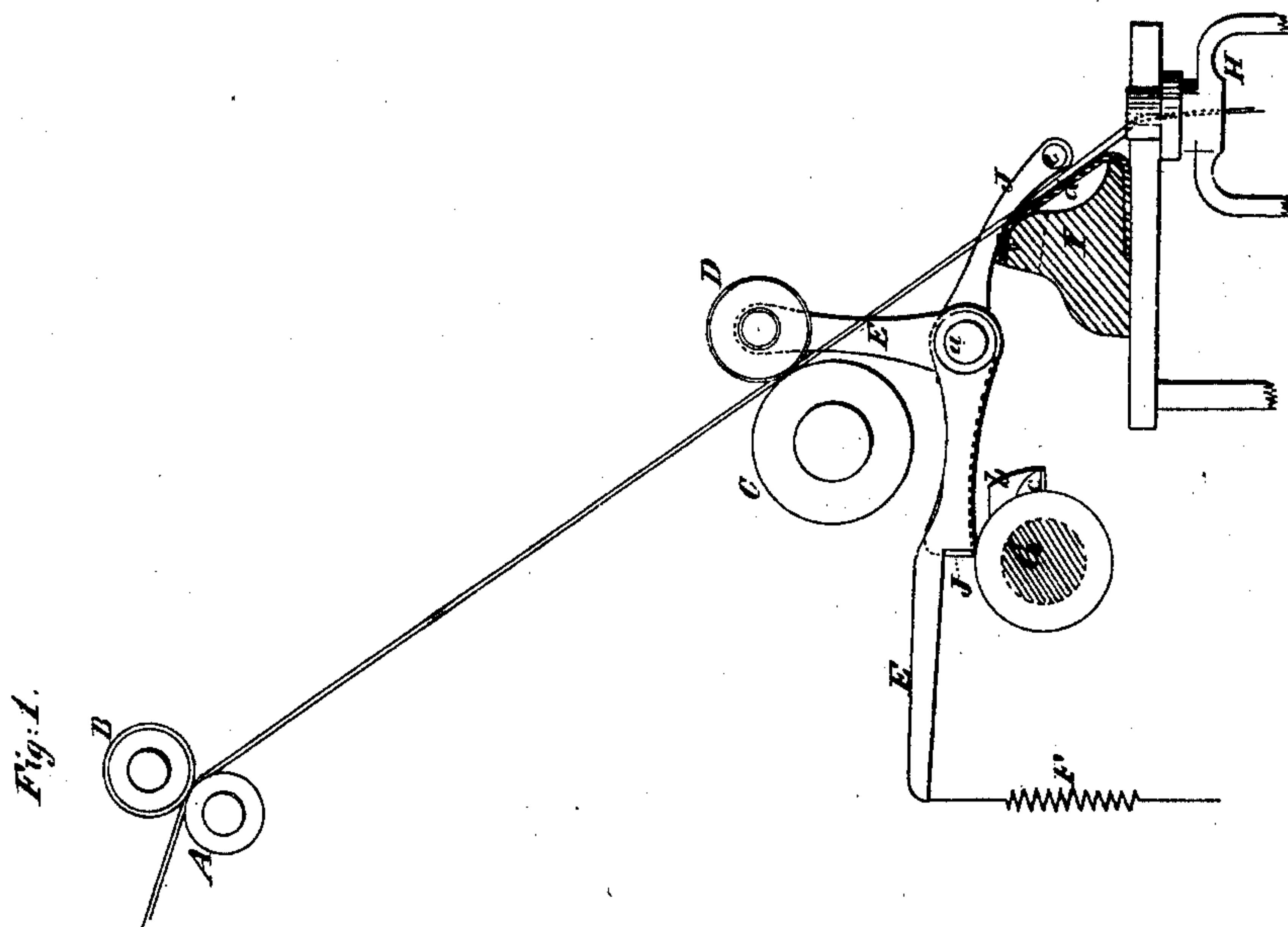
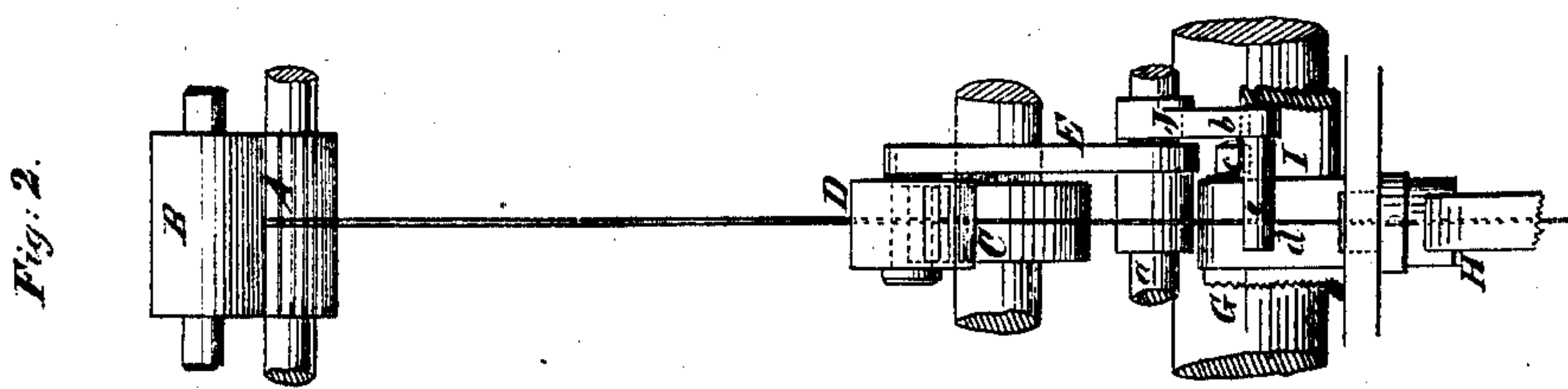


J. H. Bloodgood.
Spinning and Drawing Mach.
N^o 35,211. Patented May 13, 1862.



Witnesses,
James Laird
Alva W. Taylor

Inventor.
J. H. Bloodgood

UNITED STATES PATENT OFFICE.

JOHN H. BLOODGOOD, OF NEW YORK, N. Y.

IMPROVEMENT IN MACHINERY FOR DRAWING AND SPINNING WOOL.

Specification forming part of Letters Patent No. 35,211, dated May 13, 1862.

To all whom it may concern:

Be it known that I, JOHN H. BLOODGOOD, of the city, county, and State of New York, have invented a new and useful Improvement in Machinery for Drawing and Spinning Wool and other Fibrous Substances; and I 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 sectional view of the principal working parts of a spinning-frame having my invention applied. Fig. 2 is a front view of the same.

Similar letters of reference indicate corresponding parts in both figures.

This invention relates to the use of front drawing-rolls having an intermitting action for the purpose of allowing the twist to run back from the spindles to the delivery-rolls; and it consists in an apparatus for preventing the strain arising from the draft of the bobbin or spindle from acting injuriously on the twisted yarn above the said drawing-rolls, such apparatus consisting, principally, of two surfaces between which the yarn passes and one of which moves toward and from the other to seize the roving or yarn before each intermission in the action of the drawing-rolls takes place and liberate it immediately after the resumption of the action of the rolls.

The invention is applicable in connection with various constructions of and modes of applying the intermitting drawing-rolls. I have represented in the drawings and will describe its application in connection with the system of intermitting drawing-rolls which constitutes part of the subject-matter of my Letters Patent dated October 1, 1861.

A B are the delivery-rolls.

C D are the intermitting front drawing-rolls, the lower one, C, having a fixed axis, and the upper one, D, having its journals or axle supported in an elbow-lever or yoke, E, working on a fixed fulcrum, *a*. F is a spring applied to the said elbow-lever to draw the upper roll, D, toward the lower one, C.

G is the tappet-shaft, carrying the tappets *b* and *c*, the latter for acting upon the yoke to raise or throw forward the roll D to produce the intermissions in the action of the draw-

ing-rolls, and the former for operating the apparatus which constitutes my invention.

H is the flier.

I is a bar of wood or iron running the whole length of the machine between the drawing-rolls C D and the fliers, having its front face concave, and having stretched across this concave face and secured to it opposite each pair of drawing-rolls C D a strip of india-rubber, *d*, to constitute an elastic cushion or pad.

J is a lever working on the fulcrum *a* close to the yoke E, and having firmly secured to it close to its front end a finger, *e*, situated in front of the pad *d*. The surfaces of the said pad and finger are the surfaces which constitute my invention, the roving or yarn colored red in the drawings passing between them on its way from the drawing-rolls C D to the flier H. The portion of the lever J in rear of the fulcrum *a* is heavier than the portion in front of it, and extends back to a position over the tappet-shaft opposite the tappet *b*. The pad *d* and finger *e* and the drawing-rolls C D are so arranged relatively to each other and to the delivery-rolls and the flier that the roving or yarn when pressed by the top roll, D, against the bottom roll, C, while the finger *e* is raised from the pad *d* may pass clear of and between the surfaces of *d* and *e*, as shown, and when pressed by the finger *e* against the pad *d* while the top roll, D, is raised or thrown forward by the tappet *c* the roving or yarn may be clear of though between both rolls.

The operation of the finger and pad is as follows: The tappet *b*, having a greater length of surface than the tappet *c*, is so arranged that it comes into operation on the rear end of the lever J and so causes the finger *e* to press and hold the yarn against the pad *d* just before the tappet *c* comes into operation on the yoke E to raise or throw forward the roller D and produce the intermission of the drawing action of the said rollers, and that it continues in operation on the said lever, and so causes the finger *e* to continue such pressure until after the roller D has again pressed the roving or yarn against the roller C and caused the drawing operation to be resumed, and hence, while the drawing action of the rolls D E is intermitted, the strain produced on the roving or yarn by the draft of the

flier bobbin or spindle is prevented from acting upon the partially-twisted and consequently soft and weak upper portion of the roving or yarn between the drawing and delivery rolls. It will thus be understood that the portion of the roving or yarn above the drawing-rolls D E is never exposed directly to the varying strain and consequent jerks resulting from the varying draft of the bobbin or spindle.

The particular form and construction of the surfaces for relieving the roving or yarn of the draft of the bobbin or spindle might possibly be varied without essentially impairing their operation. For instance, rolls moving with the same surface velocity as the drawing-rolls might be substituted for the pad *d* and finger *e*, and I do not therefore confine myself to any construction of such surfaces.

I am aware that drawing-rolls having their surfaces flattened or recessed have been so arranged in two pairs that one pair acts while the other does not, and so relieves the roving

or yarn from the strain of the bobbin or spindle, and I therefore do not intend to claim the use of such a system of rolls or broadly to claim the use of apparatus applied between the bobbin or spindle and the drawing-rolls to prevent the draft of the bobbin or spindle from affecting the roving or yarn back of the drawing-rolls; but.

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

The employment in drawing and spinning frames, in combination with drawing-rolls having an intermitting action, of an apparatus consisting of two surfaces, of which one has a movement toward and from the other and which operate substantially like the surfaces of *d* and *e*, for the purpose herein specified.

JNO. H. BLOODGOOD.

Witnesses:

R. GAWLEY,
JAMES LAIRD.