

W. S. GUINNESS.

Sewing Machine.

No. 41,916.

Patented March 15, 1864.

Fig. 1

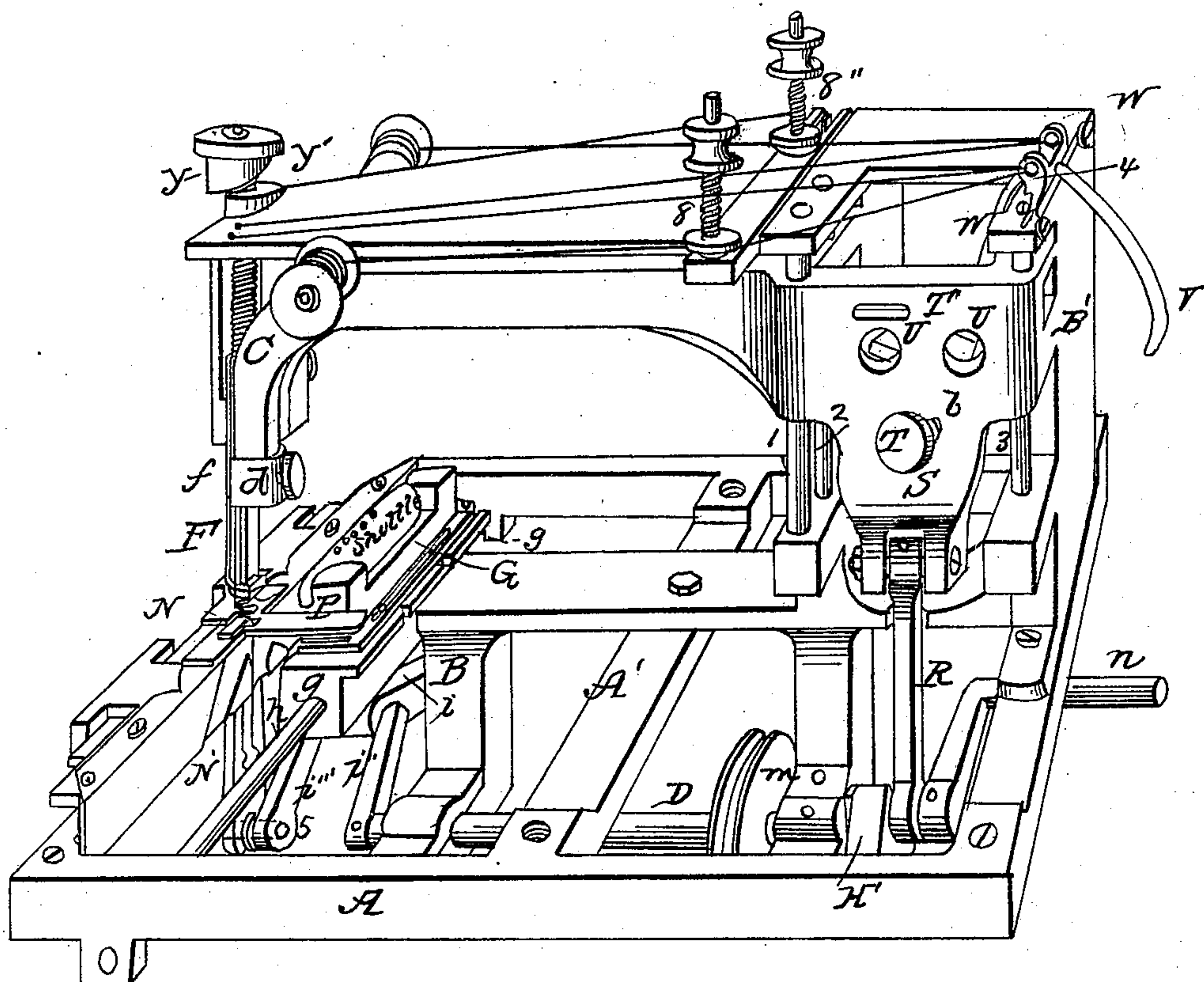
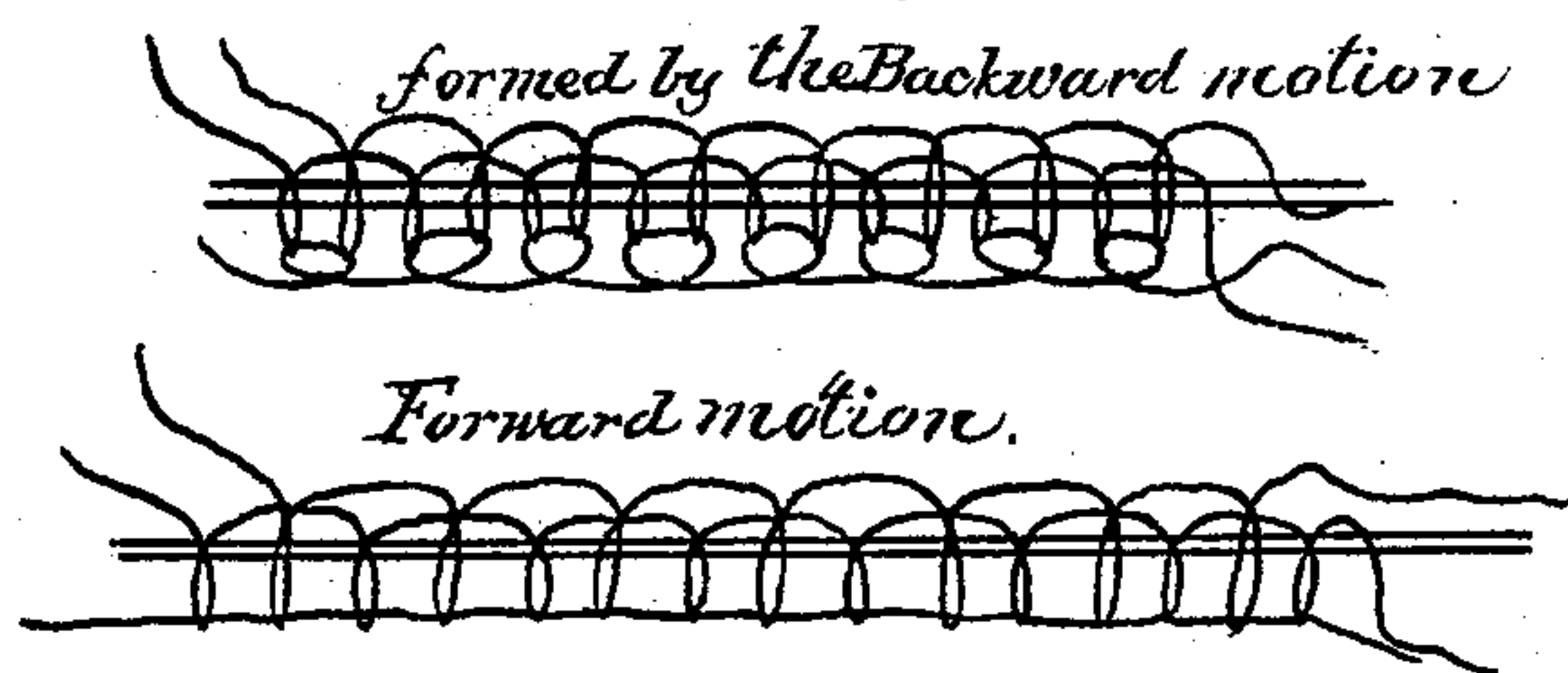


Fig. 5



WITNESSES
Anne S. McLean
James P. McLean.

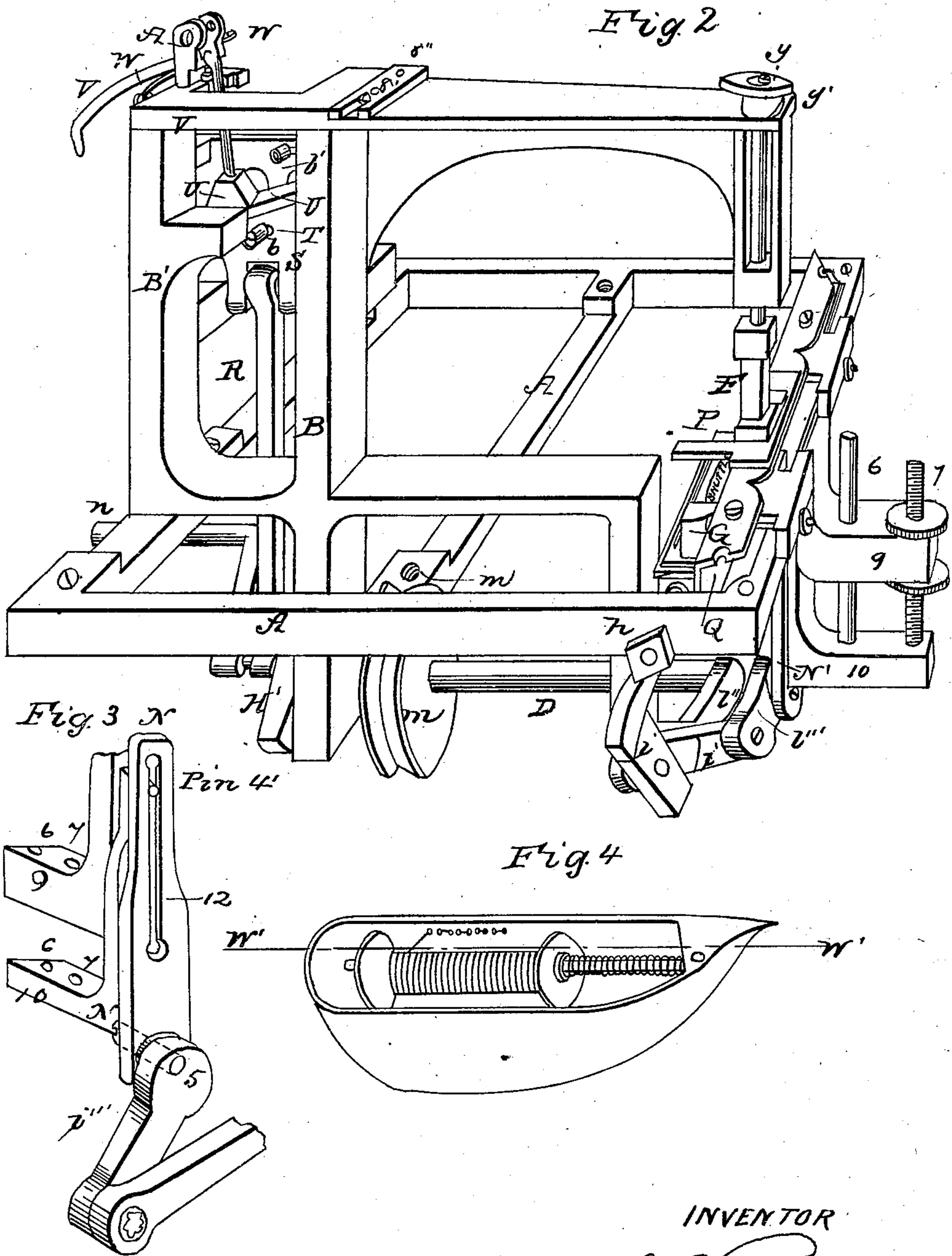
INVENTOR
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2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

REISSUED

WM. S. GUINNESS, OF MOUNT VERNON, NEW YORK.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **41,916**, dated March 15, 1864; antedated March 9, 1864.

To all whom it may concern:

Be it known that I, WILLIAM S. GUINNESS, of Mount Vernon, in the county of Westchester, in the State of New York, have invented certain novel and useful Improvements in the Mode of Constructing Sewing-Machines; and I hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings and the letters of reference marked thereon, which constitute and form a part of this specification.

To enable the public to fully understand the nature of my invention, I will describe it as follows:

Plate 1 is a perspective drawing, showing the front, top, oblique, and back end of my improved sewing-machine. Plate 2 is a perspective back, oblique, top, and front end of such parts of the machine as could not be clearly shown in Plate 1. Plate 3 is a perspective view of the feed-bar and its appendages. Plate 4 is a perspective view of a shuttle made to receive a medium-size wooden spool of thread.

Letters A A', Plates 1 and 2, represent the horizontal frame which supports the table, vertical frame, or standard B B', removable shuttle-bed *g g*, traverse-bar *h*, upon which the shuttle-bed moves backward and forward by means of the cranks *i'' i'''* and toggle-joint *i i'*, and main shaft D, operated by the band-wheel *m* or crank *n*. The needle-arm *c*, Plate 1, moves parallel to the frame B B' by means of its head S, or large end thereof, reciprocating upon the vertical columns 1, 2, and 3 more or less when operated by means of the connecting-rod R and crank H' upon the main shaft D.

Letter *d* is an adjustable band or clamp around the small end of the needle-arm *c*, so constructed that the needle passes between the outer face, *f*, of the arm and the band; hence when the band is tightened by means of the set or thumb screw *e* the needle or needles are firmly secured for sewing purposes. By this means I am enabled to use any kind of straight needles, from the ordinary sewing-machine needle to the common sewing-needles (Nos. 5 and 8) of commerce, which may be successfully used in my machine, if desired, either

singly or two or more arranged side by side in the line of the seam to be sewed, in which case (when very nice sewing is required) the eye of the needle farthest from the point of the shuttle should be set one-thirty-second part of an inch lower than the needle-eye next the point of the shuttle before commencing to sew.

Letter G is a wooden shuttle-holder, secured by any suitable mechanical device to the removable bed *g g*. I believe this holder to be better adapted for the purpose employed than any other now used.

From the peculiar shape of my shuttle, as shown at Figure 4, I am enabled to use a short needle, bearing in mind that the vertical way in the vicinity of the throat should be cut away to prevent the shuttle from pressing the thread against the way.

Letter F is the foot employed to keep the cloth or other material to be sewed down upon the smooth face of the feed-bar N N'. The foot F is held at the highest point by means of an eccentric nut, *y*, having its lower surface cut in a bevel, and revolving upon an analogous inclined plane, *y'*, as shown at Plate 1. The feed-bar N N' is operated by means of a crank, *i'''*, revolving upon a pin, 5, eccentric to the main shaft D, the bar N' being provided with a vertical slit or opening, 12, and adjustable guide-pin 4', which causes the smooth face of the feed-bar N to produce a double action upon the fabric to be sewed. The bar is caused to rise by the action of the crank *i'''* at the same time it oscillates upon pin 4', thereby giving the desired motion and pressure upon the fabric by the application of the smooth surfaces of the bar and the foot. This feed is adapted to serving in either direction.

Figures 8' 8'' are two columns provided with two thumb-screws, spiral springs, and movable rings at the bottom thereof, the thread passing through the bottoms of the columns and the adjustable rings pressing down upon the thread by the action of the spiral springs and thumb-screws at the top.

Letters V V represent a lever, regulator, or governor, having a foot, U U, and one or more eyes, through which the thread passes to the needle-eye. Its action may be retarded by a spring, W W, a weight, or other suitable device, and thus it takes up the surplus thread

while the machine is in motion. This regulator is operated by the head of the needle-arm as it ascends by the means of a boss, *b*, (shown at Plate 2,) that is secured in the slit *T* by means of a set-screw or otherwise. This boss strikes the foot *U U* and causes the regulator to fall back to its place. I do not confine myself to operating the regulator by the action of the needle-arm alone, but may use a separate rod to connect direct to the main shaft *D*.

Plate 5 is an illustration of a compound interlock elastic stitch produced by two or more needles following each other in the same line. A variety of stitches may be produced by my machine, as it sews equally well in either direction, backward or forward.

Having described the individual parts of my invention, I will state a few of its advantages over those in common use.

First, my machine moves simultaneously in all its working parts, and I believe is less liable to get out of order than any other.

Secondly, it may be run backward or forward, and will stitch perfectly either way.

Thirdly, the whole apparatus, being operated by three cranks upon one main shaft, I believe to be novel and useful.

Fourthly, the simple contrivance of holding and operating the shuttle, I believe, renders it freer from noise and enables it to carry a larger shuttle without increasing the size of the machine.

Fifthly, the mode of operating the needle precludes the necessity of any oil near it or the goods being sewed.

Lastly, the mode of regulating or governing the thread by the lever *V V* in either a backward or a forward movement of the machine I believe to be novel and useful.

What I claim as novel and useful, and wish to secure by Letters Patent of the United States of America, is—

The combined arrangement of the needle-arm *c*, the feed-bar *N N'*, the shuttle-holder *G*, the carrier *g g*, and the thread regulator or governor *V V*, moving simultaneously, in the manner and for the purpose substantially as described, and shown in the drawings.

In testimony whereof I hereunto subscribe my name.

W. S. GUINNESS.

Witnesses:

JAMES P. McLEAN,
ANNE S. McLEAN.