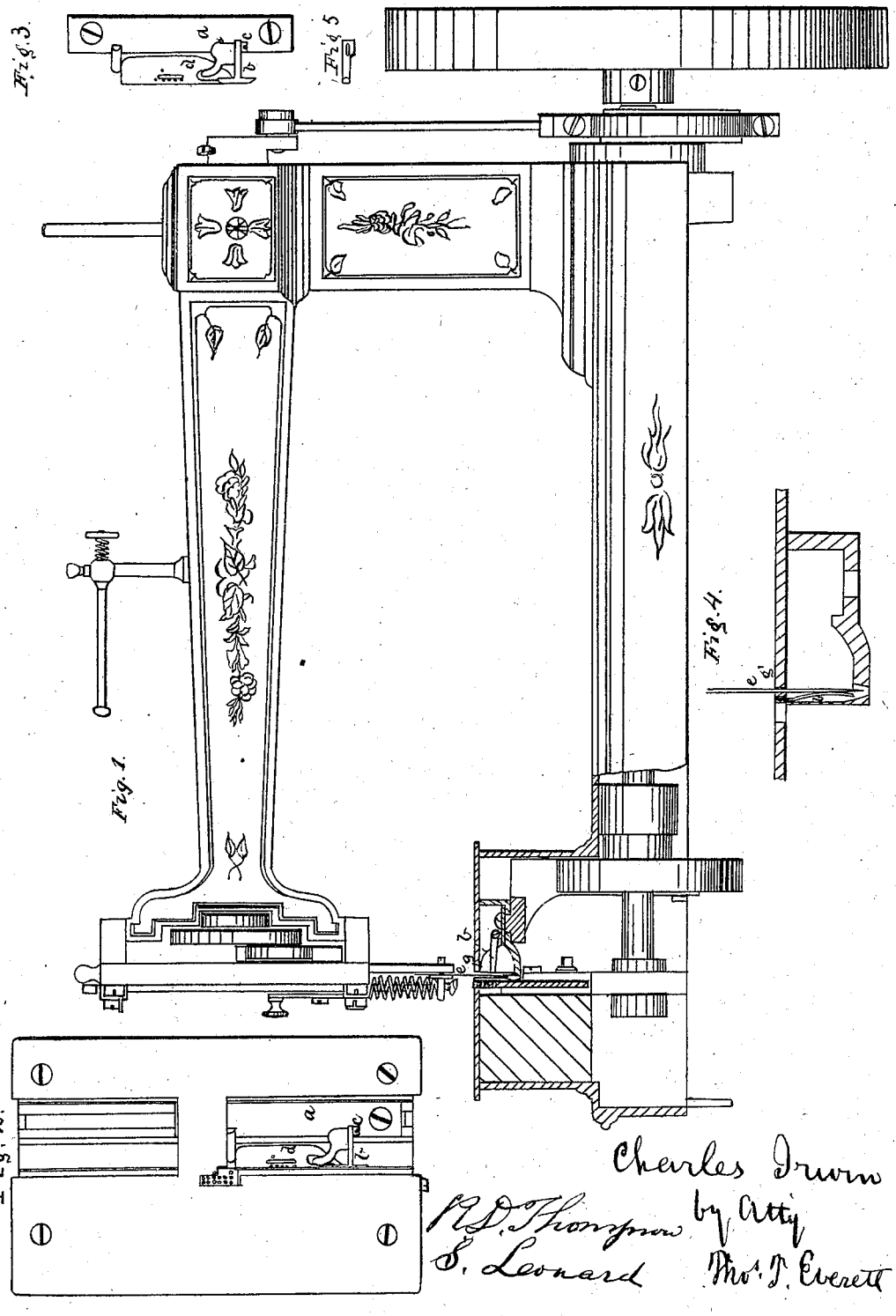
C. IRWIN.

SEWING MACHINE.

No. 31,171. Patented Jan. 22, 1861.



Charles Irwin
by Atty
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UNITED STATES PATENT OFFICE.

CHARLES IRWIN, OF BUFFALO, NEW YORK.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 31,171, dated January 22, 1861.

To all whom it may concern:

Be it known that I, CHARLES IRWIN, of the city of Buffalo, in the county of Erie and State of New York, have invented a certain new and useful Improvement in Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters and marks thereon.

My improvement relates to that class of sewing-machines wherein the straight needle and a shuttle are used. In such machines, particularly when a fine needle is employed, the point of the needle is apt to come in contact with the shuttle and be broken. The thread of the needle, also, is liable to be out of place, not presenting a perfectly and well shaped loop, and allowing of the skipping of the stitches.

Now, my invention has for its object insuring the needle from being broken by contact with the shuttle, and the forming of a perfect and well-developed loop; and my invention consists in guiding and protecting the needle and its thread by the action of a spring attached to the plate through which the needle plays, and of an adjustable arm on the front end of the shuttle-carrier.

By the drawings forming part of this specification is shown a sewing-machine of the character above named, Figure 1 exhibiting an entire machine with certain portions removed, the better to show the interior parts thereof; Fig. 2 being a view of the shuttle and the shuttle-carrier in place; Fig. 3, a view of the shuttle and its carrier detached from the plates; Fig. 4, an enlarged view of the guiding-spring needle, the plates surrounding them, and Fig. 6 a view of the adjustable arm detached.

In each of these figures where like parts are shown like letters are used to indicate them.

Such parts of the machine represented by the drawings as specially relate to my invention will only be here described.

To one end of the shuttle-carrier *a*, I attach an arm, *b*, by a screw, *c*, so that its end near the point of the shuttle *d* may be raised or lowered, and thus adjusted to the position desired for guiding the needle *e*, and preventing its point from coming in contact with the shuttle on its downward movement. This arm *b* also will act as a guide to the needle while it is down and while the loop is being formed, and thus, in connection with the spring *f*, will steady the needle and its thread while the shuttle is passing through the loop. The spring *f* is fitted in a dovetail groove in the back side of the needle's throat in the plate *g*, and, as is shown clearly by Fig. 4 of the drawings, extends downward, so as by its face to guide and direct the needle. The tendency of this spring is to press the needle toward the shuttle as it passes to its lowest point, and any degree of pressure of the spring too great in the direction of the shuttle being met by the arm *b*, the needle necessarily is fully controlled and directed by the joint action of the spring and the arm. Usually the thread of the needle forming the loop is lost behind the needle in the space occupied by this spring *f* in my machine, and often causes skipping of the stitches. This spring, then, prevents this skipping and insures the forming of a perfect loop. If this spring should press a fine needle too near the point of the shuttle, so that it would be struck by the shuttle were not the arm *b* also acting, it will be perceived that the arm coming along just ahead of the point of the shuttle and pressing the needle back against the spring will prevent such an accident.

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

The adjustable arm *b* on the front end of the shuttle-carrier, in combination with the spring *f*, for guiding and protecting the needle and its thread, as herein set forth.

C. IRWIN.

Witnesses:

C. W. WIPPORT,

JNO. J. SLOTE.