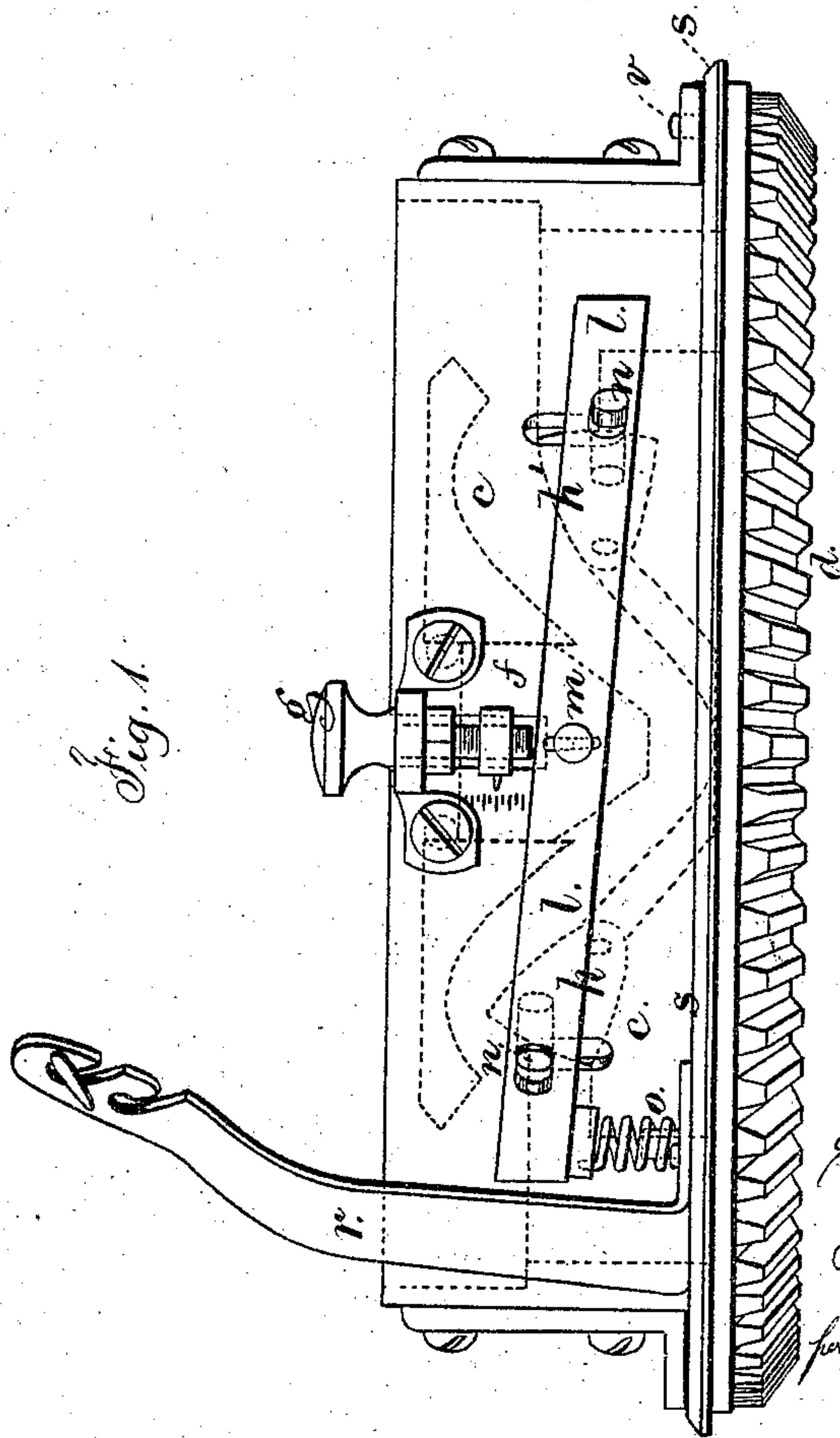
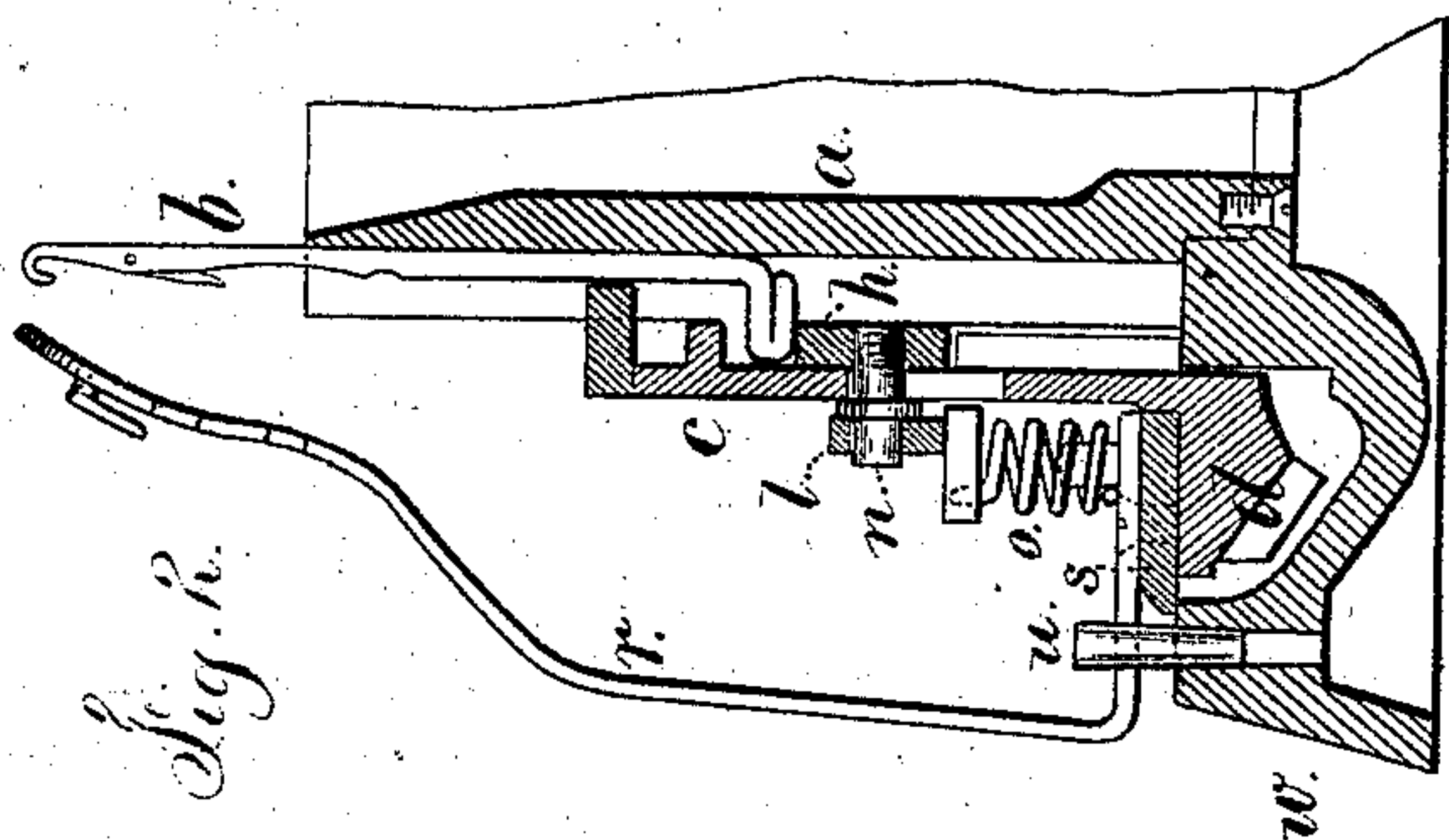


W. S. C. WILEY & T. WHITE.

Knitting-Machines.

No. 150,451.

Patented May 5, 1874.



Witnesses,
Chas. H. Smith
Geo. F. Pinckney

Inventors
William S. C. Wiley
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for Lemuel W. Ferrell
att'y

UNITED STATES PATENT OFFICE.

WILLIAM S. C. WILEY AND THOMAS WHITE, OF NEW HARTFORD, CONN.,
ASSIGNORS TO CHAPIN MACHINE COMPANY, OF SAME PLACE.

IMPROVEMENT IN KNITTING-MACHINES.

Specification forming part of Letters Patent No. **150,451**, dated May 5, 1874; application filed
November 29, 1873.

To all whom it may concern:

Be it known that we, WILLIAM S. C. WILEY and THOMAS WHITE, of New Hartford, in the State of Connecticut, have invented an Improvement in Knitting-Machines, of which the following is a specification:

In our machine the thread-carrier is upon a ring that surrounds the revolving cylinder, and a lever is applied upon the outside of that cylinder, connected with the side cams upon the inner surface of said cylinder, so that as the lever is moved one cam is raised and the other moved down out of action. The lever is moved by the thread-carrier when said thread-carrier is arrested in knitting flat goods, so that the cylinder and cams proceed in completing their movements after the thread-carrier is stopped; and, in so doing, the cams are changed, in order that the needles may be properly operated when the revolving cylinder is turned around the other way, carrying the thread-carrier with it by frictional contact.

In the drawing, Figure 1 is an elevation of the cylinder, lever, and thread-carrier; and Fig. 2 is a section through the needle-cylinder, revolving cylinder, cams, and lever.

The stationary cylinder *a* is made with vertical grooves, in which the needles *b* are moved vertically by the cam-groove in the cylinder *c*, that is revolved around the cylinder *a* by means of a suitable bevel-gear acting upon the teeth *d* at the bottom of the cylinder *c*. These parts, being well known, do not require further description, and we remark that the knitted fabric passes down through the cylinder *a*, and the thread or yarn is supplied at the outer side of the cylindrical range of needles, and the previous loops are cast off the needles, over the new loop, by the needles being drawn down below the upper end of the cylinder *a*, as usual. The cam-groove of the cylinder *c* is provided with the adjustable depressing cam-piece *f*, (shown by dotted lines in Fig. 1,) and this is raised or lowered by the set-screw *g*, working through a nut upon said cam *f*, that passes through a slot in the cylinder *c*, and by this cam the amount of depression of the needles and the consequent lengths

of loops are regulated. The cams *h h'* are attached to the interior of the cylinder *c* by screws or rivets, and, when elevated, serve to raise the needles and slip the previously-formed loops down upon their shanks, below the latches, and one cam operates when the cylinder *c* is turned one way, and the other when the cylinder *c* is moving in the opposite direction. For this purpose, these two cams are connected by the lever *l*, turning upon the fulcrum *m*, so that one cam is thrown up and the other simultaneously moved down. We have shown pins *n n*, that project from the cams *h h'*, through slots in the cylinder *c*, and enter eyes in the lever *l*. In order to move this lever *l* we employ the spring-stud *o* upon the base of the thread-carrier *r*, and this thread-carrier is sustained upon the ring *s*, that surrounds the base of the cylinder *c*. As the cylinder *c* and thread-carrier are moved together, the thread-carrier is toward the advancing end of the lever *l*, and for knitting flat fabrics pins *u* are inserted in the proper places in the bed *w*, and the carrier, coming into contact with such pin, is arrested; but the cylinder *c*, being moved on, carries the lever over the spring-stud *o*, and said lever and the cams *h h'* are reversed in position, and then the movement of the cylinder *c* is arrested by a stop, *v*, upon the ring *s*, and the parts are in position for the movement of the cylinder *c* and thread-carrier to be reversed, and the thread-carrier is in advance of the lever *l*, and is carried by the friction of its ring until stopped, and the parts are then reversed as before.

We claim as our invention—

The lever *l*, connected to the cams *h* and *h'*, and moving upon the fulcrum *m*, in combination with the cylinder *c*, thread-carrier *r*, and stud *o*, substantially as and for the purposes set forth.

Signed by us this 17th day of October, A. D. 1873.

WM. S. C. WILEY.
THOMAS WHITE.

Witnesses:

PHILIP E. CHAPIN,
O. T. HUNGERFORD.