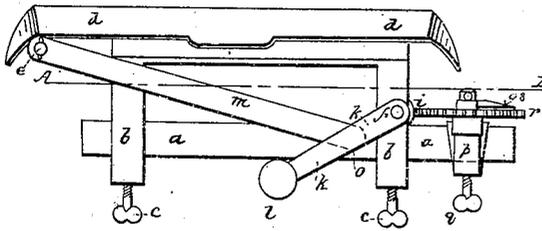


*Wyman & Harts horn.*  
*Straight Knitting Mach.*

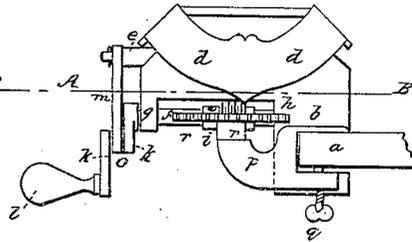
*No. 8,928.*

*Patented Sept. 17, 1867*

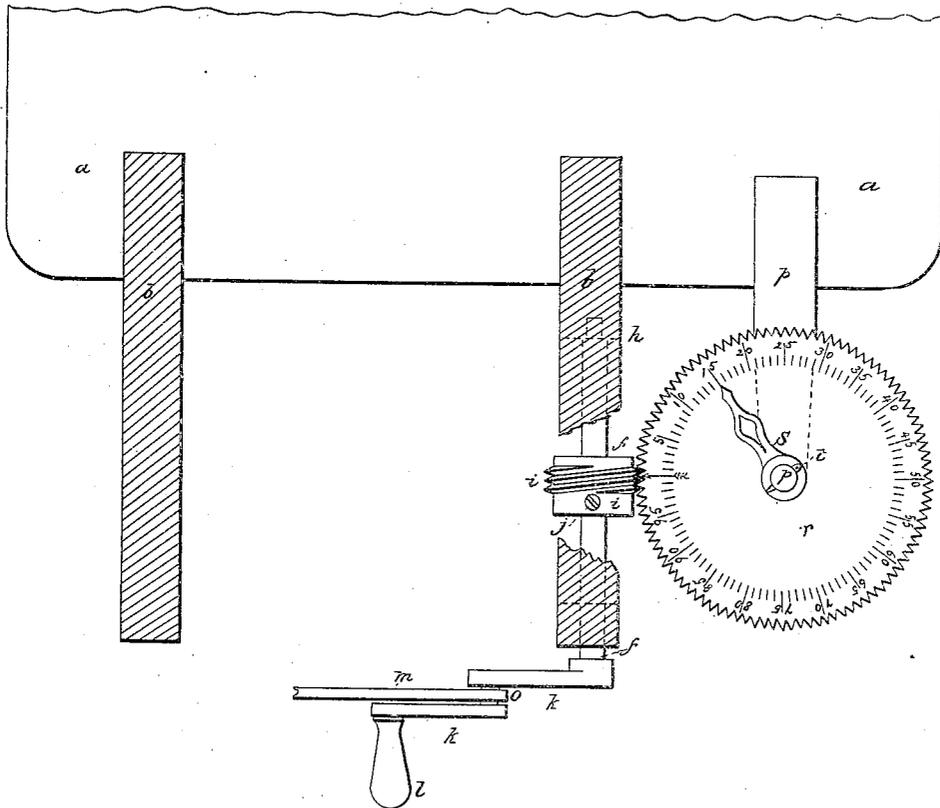
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



*Witnesses.*  
*C. S. Parkhurst*  
*George J. Wright*

*Inventors.*  
*Benj. S. Wyman*  
*Benj. H. Harts horn.*

# United States Patent Office.

BENJAMIN F. WYMAN, OF LANCASTER, AND BENJAMIN H. HARTSHORN, OF  
ASHLAND, MASSACHUSETTS.

Letters Patent No. 68,928, dated September 17, 1867; antedated September 4, 1867.

## IMPROVEMENT IN KNITTING-MACHINE REGISTER.

The Schedule referred to in these Letters Patent and making part of the same.

### TO ALL WHOM IT MAY CONCERN:

Be it known that we, BENJAMIN F. WYMAN, of Lancaster, county of Worcester, and BENJAMIN H. HARTSHORN, of Ashland, county of Middlesex, and State of Massachusetts, have invented a new and improved Register for Knitting Machines; and we do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The present invention relates to a new and useful improvement in registers for knitting machines, and we employ a worm-gear, placed upon the crank-shaft of a knitting machine, and secured to the same by a set-screw; also, a toothed wheel or dial, containing, say one hundred teeth, cut to fit and run in the worm-gear, before mentioned, with the upper side divided into, say, one hundred parts or divisions, which divisions are numbered in ascending series from five to one hundred; also, a suitably-constructed stand, which can be secured to the leaf of a table by the side of a knitting machine by a thumb-screw against the under side of same, upon which stand the toothed wheel or dial is mounted, and made to revolve by the worm-gear on the crank-shaft of machine, and moves one division at every revolution of the crank-shaft; and also a hand or pointer, closely fitted to the upper end of the perpendicular part of the stand, (upon which the horizontal toothed wheel or dial revolves,) which can be turned by the operator at any time, so the point of the hand shall be against the figure 1 when the knitting is commenced. The hand of course stands still, while the dial turns one division at every revolution of the crank-shaft, thus registering with precision the number of times the machine has knit around the stocking.

We do not confine ourselves to dividing the dial into just one hundred parts, but may use any number of divisions, always having the same number of teeth upon the edge as divisions upon the dial.

The usefulness of our invention is apparent: first, when we know that without it the operator is obliged to count the turns of the crank-shaft to get the stockings of the same length, which is a tedious and annoying tax upon the operator; second, when we consider its accuracy, cheapness, and simplicity.

In the accompanying plates of drawing we have represented our improvements, reference being had to the same in the following description, of which—

Figure 1 is a front elevation of a knitting machine with our improved register attached.

Figure 2 an end view of the same.

Figure 3 is a plan or top view of table-leaf and the lower part of knitting machine, cut through the red dotted line A B, figs. 1 and 2, with our improvement attached.

*a a* represents the leaf of a table, upon which the knitting machine *b b* is secured by the thumb-screws *c c*. *d d* the sliding frame of a knitting machine, which operates upon the needles as it passes from one side to the other. *e* is a stud, secured to the frame *d*. *f* is the crank-shaft of the machine, passing through the hanger *g* and supported at the other end in the machine frame *b* at *h*. *i* is a worm-gear, secured to the crank-shaft *f* by the set-screw *j*. *k k* is a crank, secured to the shaft *f* at one end, and having a handle, *l*, at the other. *m* is a connecting-rod, hung at one end upon the stud *e*, and the other end to the crank *k* in the centre at *o*. *p* is a stand, made to fit loosely upon a table-leaf, and secured to it by a thumb-screw, *q*. *r* is the toothed dial-wheel. *s* is a hand or pointer, secured to the stand *p* by the pin *t*.

Having described the manner in which the devices composing our invention and some parts of a knitting machine are arranged, we will now proceed to describe how the same operate together. The operator of a knitting machine turns the crank-shaft *f* by the handle *l*, and crank *k k*, and the sliding frame *d d* is made to move backward and forward by the connecting-rod *m*, which is hung at one end upon the stud *e*, and at the other end to the crank *k k* at *o*, and upon the shaft *f* is secured the worm-gear *i* by the screw *j*. This worm fitting the toothed wheel or dial, the same is made to revolve, or to move one division to every revolution of crank-shaft. The hand *s* being secured to the stand *p* stands still wherever it is placed by the operator, and the dial revolves under it, showing at any time how many revolutions the crank-shaft has made.

Having thus described our invention, we claim as new, and desire to secure by Letters Patent—

The combination and arrangement of the shaft *f*, the worm *i*, the dial *r*, the hand *s*, and the stand *p*, substantially as and for the purpose set forth.

BENJ. F. WYMAN,  
BENJ. H. HARTSHORN.

Witnesses:

C. F. M. PARKHURST.  
GEORGE F. WRIGHT.