

(No Model.)

F. W. HOHRATH.  
MACHINE FOR ENLARGING TAPES OR LACES.

No. 543,482.

Patented July 30, 1895.

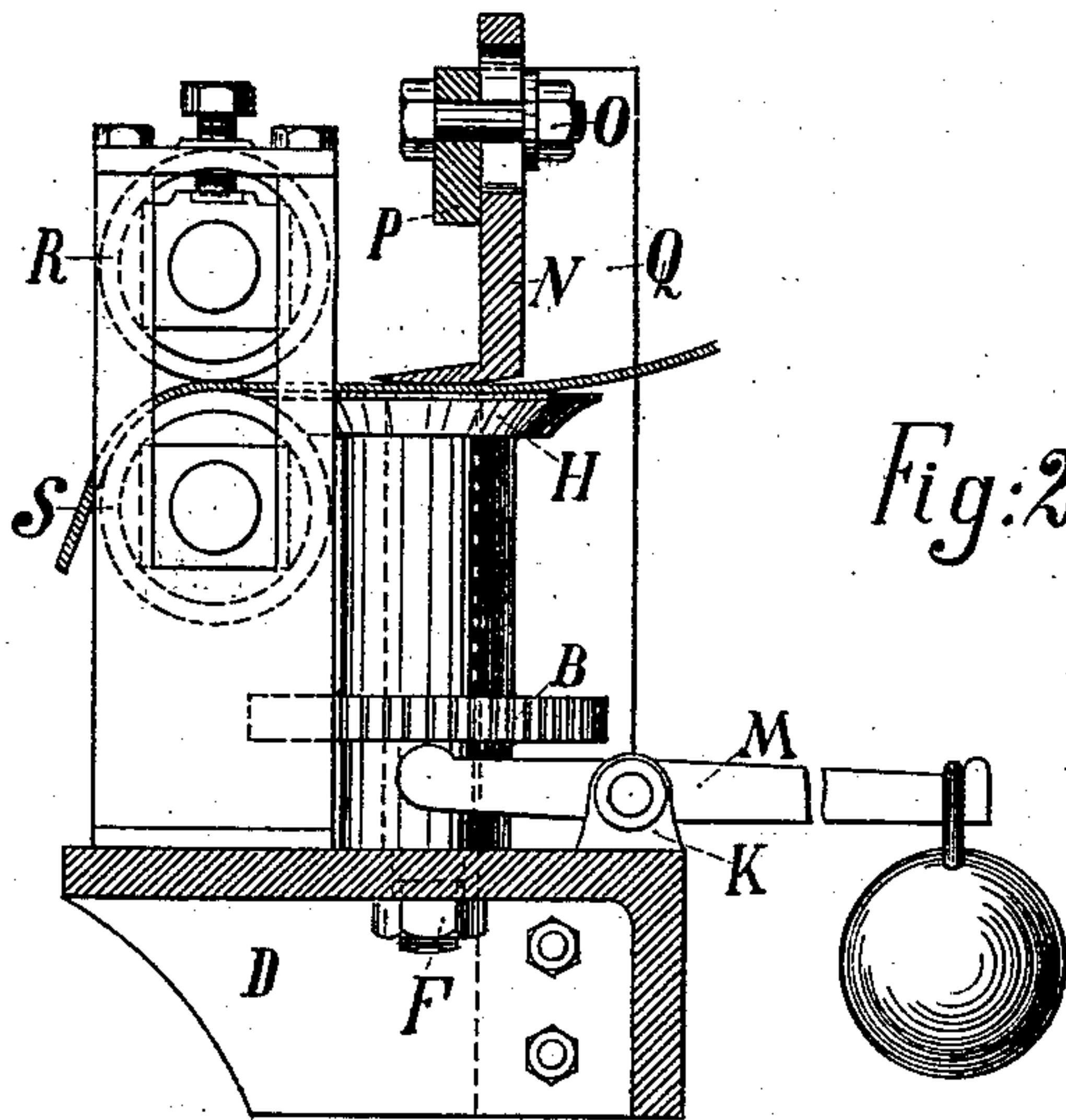


Fig:1.

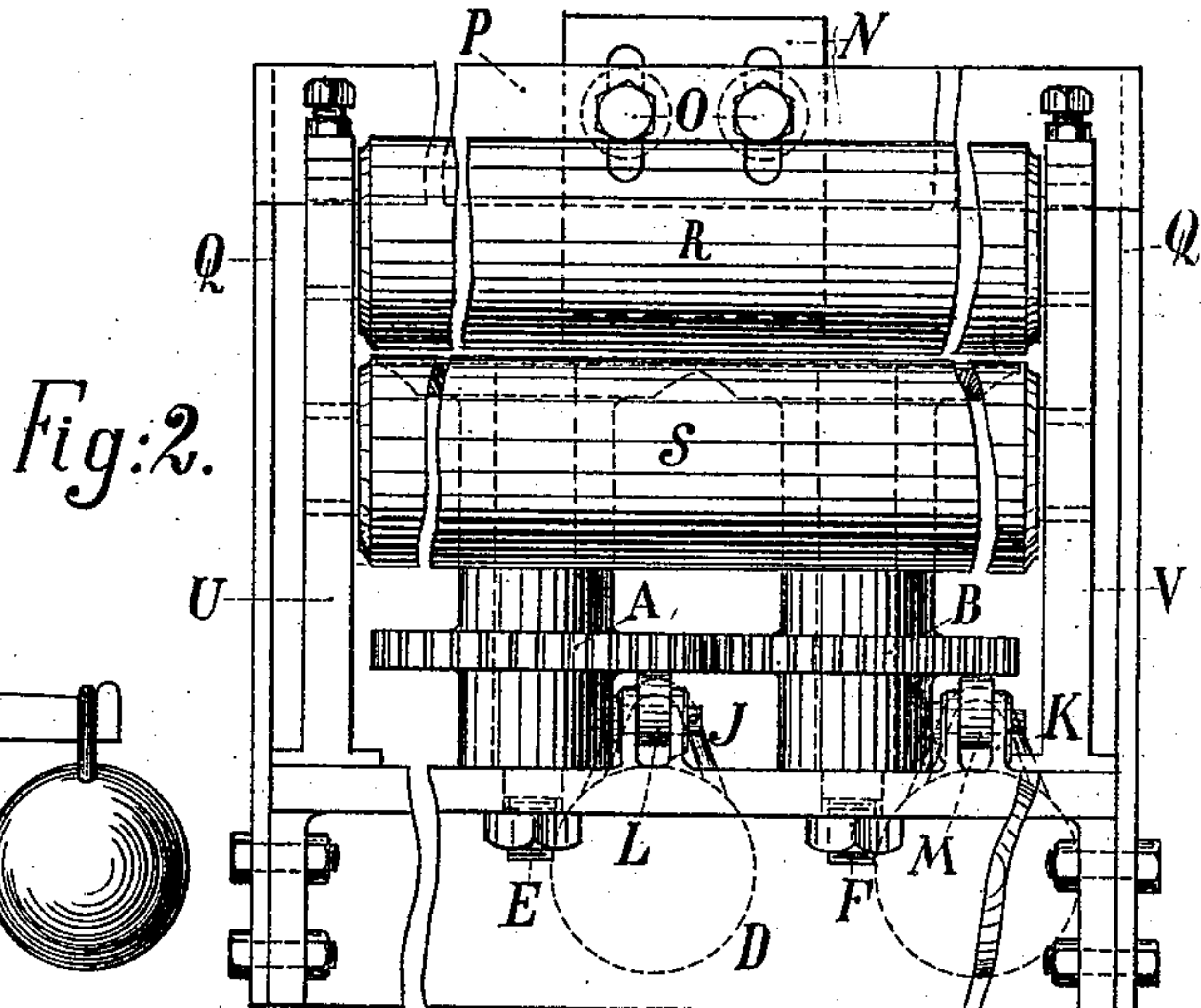


Fig:2.

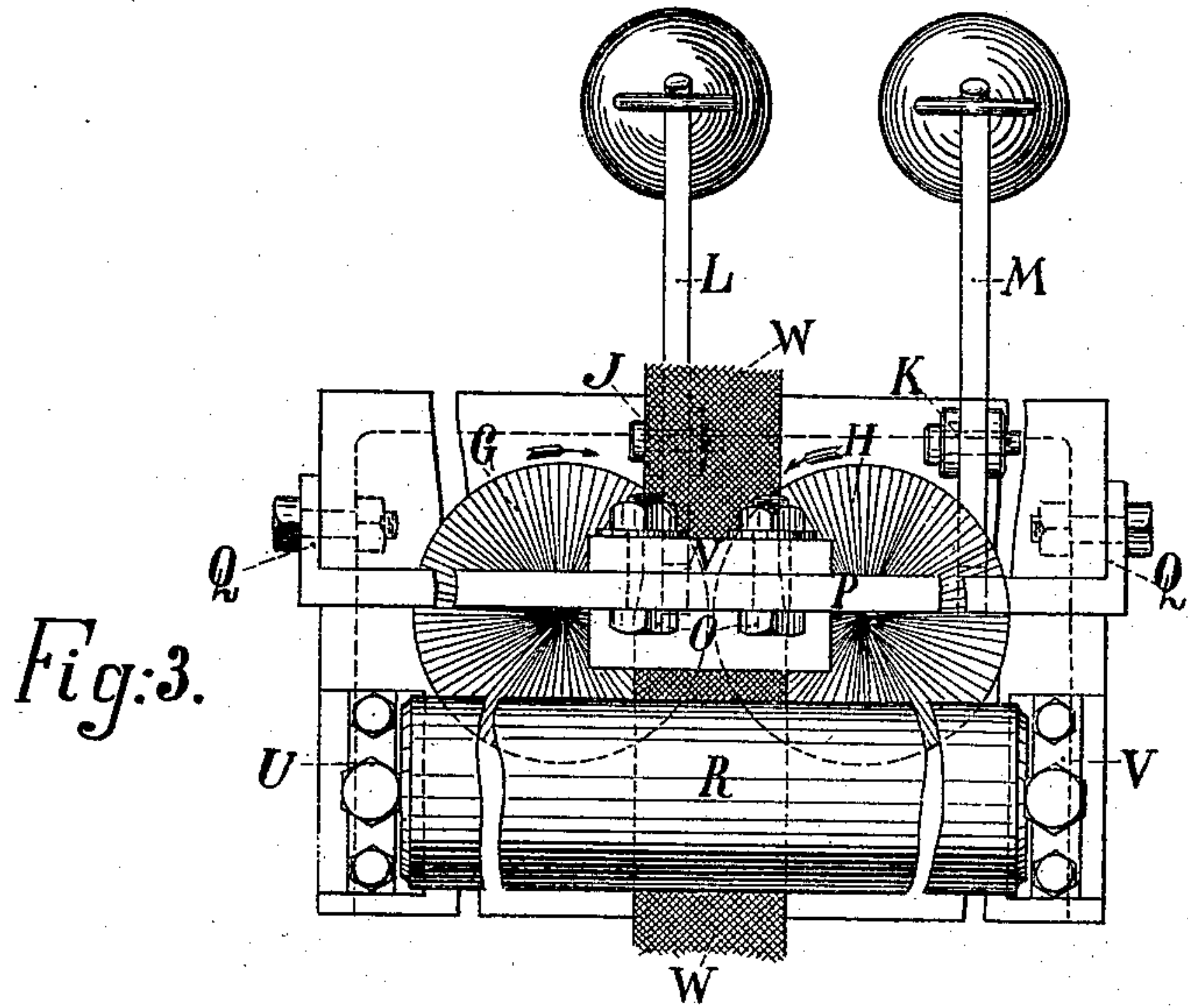


Fig:3.

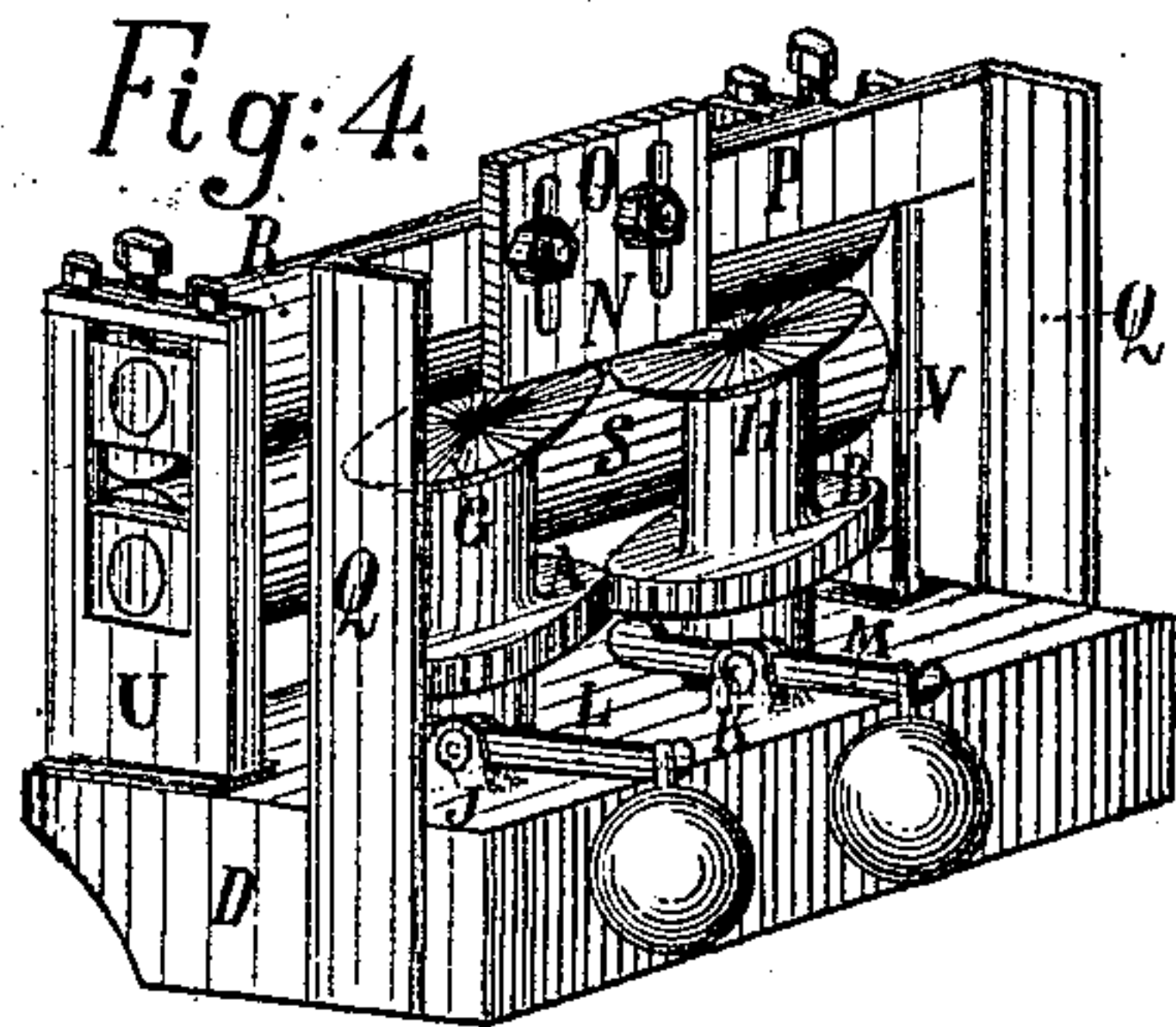


Fig:4.

Witnesses.

L. Frey  
Planner

Inventor.

F. W. Hohrath  
per  
Karl S. Mayer  
Atty.



# UNITED STATES PATENT OFFICE.

FRIEDRICH WILHELM HOHRATH, OF BARMEN, GERMANY.

## MACHINE FOR ENLARGING TAPES OR LACES.

SPECIFICATION forming part of Letters Patent No. 543,482, dated July 30, 1895.

Application filed January 5, 1893. Serial No. 457,440½. (No model.) Patented in Germany April 26, 1892, No. 66,770.

*To all whom it may concern:*

Be it known, that I, FRIEDRICH WILHELM HOHRATH, a subject of His Majesty the Emperor of Germany, residing at Barmen, in the Province of Rhenish Prussia, Germany, have invented a new and useful Machine for Enlarging Tapes or other Braided Articles in Width, (for which invention I have obtained a patent in Germany, No. 66,770, dated April 26, 1892,) of which the following is a specification.

My invention relates to a machine for finishing and enlarging tapes by pulling them from the middle in opposite directions crosswise to their length by means of rotary disks and then fixing the obtained breadth by passing the fabrics between heated rollers.

I attain the object by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the machine, partly in section. Fig. 2 is a front view. Fig. 3 is a plan. Fig. 4 is a perspective view on a smaller scale.

The machine consists of two wheels A and B gearing into each other and one of which may be driven from some suitable gearing outside. Any number of pairs of such wheels may be fitted in a frame D, so that they can rotate on studs F. The upper sides of the long bosses of these wheels are surmounted by disks G H, touching each other on their circumference. The upper surfaces of these disks G H are roughened.

Opposite to each wheel are fixed to the frame D little brackets I K, carrying weighted levers L M, which with one end press under the wheels and tend to raise the same and press them against shoes N, which are fixed exactly over the middle of two corresponding wheels. These shoes are vertically adjustable on a horizontal cross-bar P fixed to standards Q by means of bolts O.

In front of the disks G H are placed two rollers R S, with their touching-line exactly on a level with the bottom of the shoes N. The lower one of these rollers is journaled in fixed bearings, while the upper roller is so arranged in the standards U V that it can be pressed down upon the lower one either by weights or by screws in the manner well known in calenders and similar machines. One or both of these rollers are hollow and they are arranged for being heated by gas or by other means.

The operation of the machine described and illustrated is as follows: The lace or tape W to be enlarged in width is inserted into the machine with its middle just over the touching-point of two corresponding disks G and H, between these and the shoe N. The disks are then pressed upward against the shoe by the weighted levers L and M and the disks and wheels are set in motion in the directions indicated by the arrows in Fig. 3. The lace pressed in between the shoe and the disk is drawn forward by the rotation of the disks, each of these tending to pull it toward its own side on account of the rotary motion and the adhesion of the lace to the roughened face of the disk, and thus the lace will be drawn forward and also enlarged in breadth, and in this state it is brought immediately between the heated rollers R and S, where the threads are so fixed that the width of the lace will remain permanent.

I know that apparatus for enlarging laces has been invented before, and I therefore do not claim such machines broadly; but

What I claim is—

1. In a machine for enlarging tapes and laces, the combination of the frame D, vertical studs E, F thereon, intermeshing gear wheels A and B on said studs, disks G, H on said studs above the gear wheels and secured thereto, a fixed shoe N secured to the frame above the disks and weighted levers L M pivoted to the frame and serving to press the disks G H upward against the shoe N.

2. In a machine for enlarging tapes and laces the combination of the frame D, vertical studs E, F thereon, intermeshing gear wheels A B on said studs, disks G H on said studs above the gear wheels and secured thereto, a fixed shoe N secured to the frame above the disks, weighted levers L M pivoted to the frame and serving to press the disks G H upward against the shoe N and heated rollers R, S journaled in the frame in front of the disks and serving for fixing the width of the braids when leaving the stretching disks and shoes, the whole as described and illustrated and for the purpose set forth.

FRIEDRICH WILHELM HOHRATH.

Witnesses:

WM. ESSENREIN,  
RUDOLPH FRICKE.