

(No Model.)

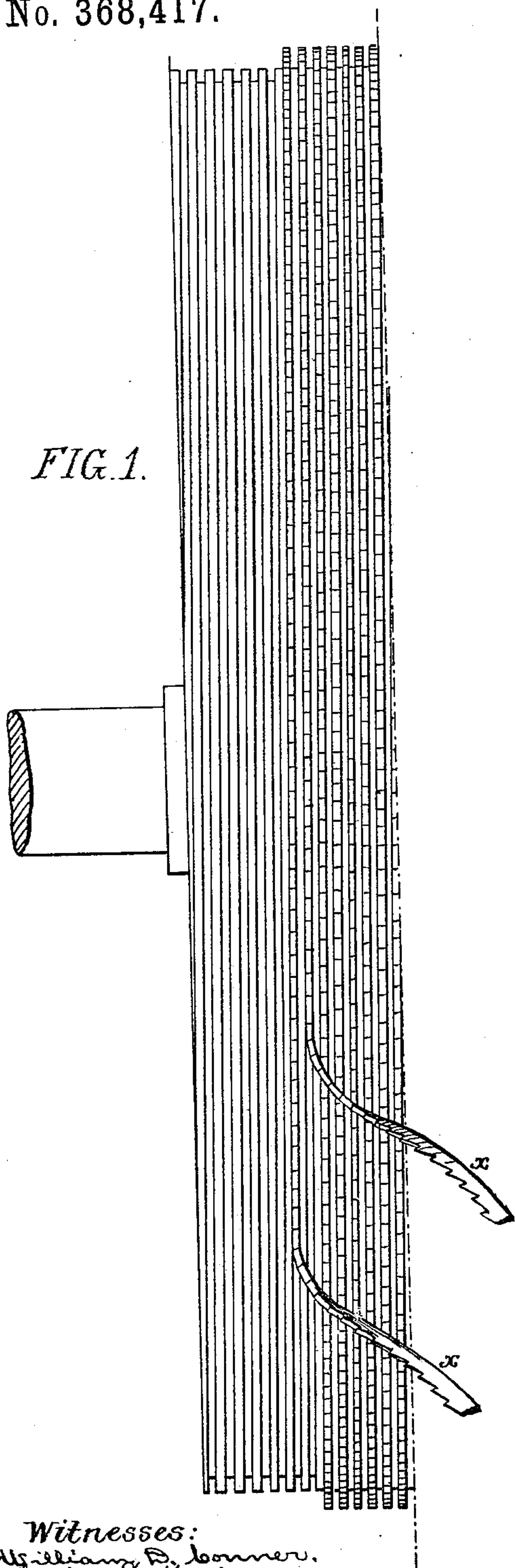
H. L. MOULTON & W. H. CLARKSON.

MANUFACTURE OF TOOTHED CYLINDERS FOR TEXTILE MACHINERY.

No. 368,417.

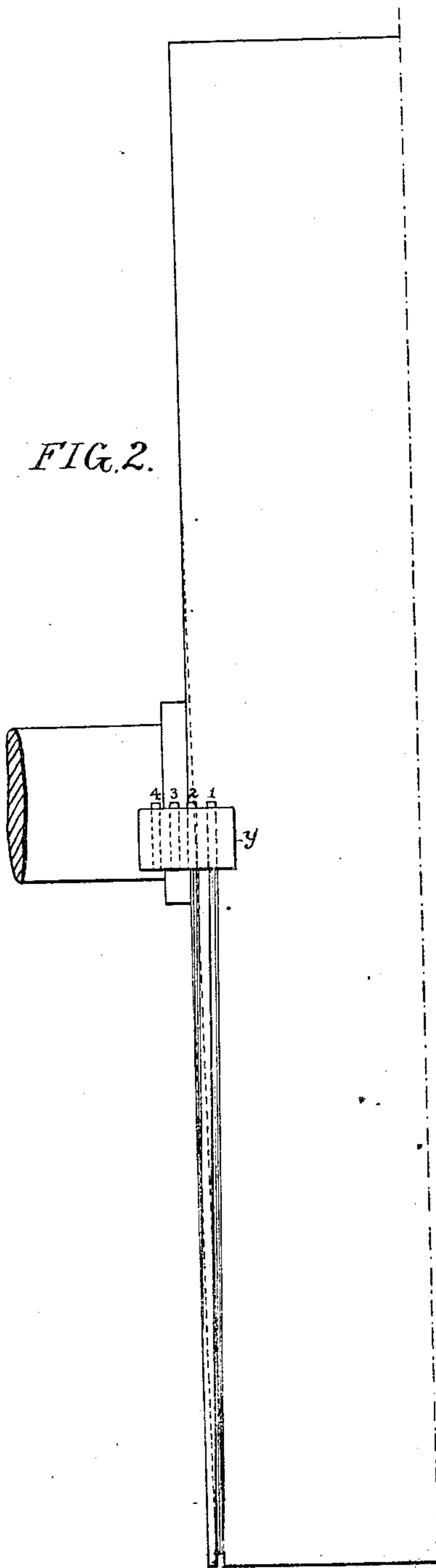
Patented Aug. 16, 1887.

FIG. 1.



Witnesses:  
William D. Bonner,  
David S. Williams.

FIG. 2.



Inventors:  
Hamilton L. Moulton &  
William H. Clarkson  
by their Attorneys  
Howison & Son



# UNITED STATES PATENT OFFICE.

HAMILTON L. MOULTON AND WILLIAM H. CLARKSON, OF PHILADELPHIA,  
PENNSYLVANIA, ASSIGNORS TO THE JAMES SMITH WOOLEN MACHINERY  
COMPANY, OF SAME PLACE.

MANUFACTURE OF TOOTHED CYLINDERS FOR TEXTILE MACHINERY.

SPECIFICATION forming part of Letters Patent No. 368,417, dated August 16, 1887.

Application filed March 26, 1887. Serial No. 232,591. (No model.)

*To all whom it may concern:*

Be it known that we, HAMILTON L. MOULTON and WILLIAM H. CLARKSON, both citizens of the United States, and residents of Philadelphia, Pennsylvania, have invented certain Improvements in the Manufacture of Toothed Cylinders for Textile Machinery, of which the following is a specification.

One object of our invention is to so construct a toothed cylinder—such as is used on what is termed a “Garrett” machine—that the same will be more effective in its action than usual, a further object being to facilitate and cheapen the grooving or threading of said cylinder for the reception of the toothed wire strips with which the same is clothed. These objects we attain in the manner hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1 is an elevation of part of a Garrett machine-cylinder constructed in accordance with our invention, the toothed strips being unwound from a part of the cylinder; and Fig. 2 is a diagram illustrating our improved method of grooving or threading the cylinder for the reception of the toothed strips.

An ordinary Garrett cylinder has extending from end to end of the same a continuous screw-thread or groove for the reception of the toothed wire strip with which the cylinder is provided. Consequently the finer the gage of the thread the finer will be its pitch and the less will be the angle of the toothed wire on the actuating-surface of the cylinder.

In carrying out our invention we discard the usual single thread and form in the cylinder a multiple thread or series of grooves, a toothed strip being applied to each of the grooves, so that without any sacrifice of fineness in the gage of the cylinder we can increase the pitch of the grooves to any desired extent. The cylinder shown in Fig. 1 has a double thread, and is wound with two strips, *xx*; but it will be evident that the number of threads in the cylinder and the number of strips may be increased to any extent which circumstances may suggest. If each of the threads in the cylinder was cut separately, however, the operation would be unwarrantably tedious and expensive; hence we have devised a method of cutting all of the threads simultaneously by one tool. This tool may be similar to an or-

dinary multiple-bit tool intended for cutting a single thread of the same gage as that of the cylinder to be produced in accordance with our invention, such a tool being shown at *y* in Fig. 2; but instead of traversing this tool at the same rate of speed at which it would be traversed if it was intended to cut a single thread, we increase the speed of traverse of the tool to an extent dependent upon the number of independent threads to be cut thereby. For instance, supposing the tool to be of a gage of twenty threads to the inch, and supposing that we wish to cut two threads upon the cylinder instead of one, we would traverse the tool at double the rate of its ordinary movement, so as to form in the cylinder two threads each having a pitch of ten to the inch, the first bit of the tool cutting the first thread and the second bit cutting the second thread, while the third bit follows in the thread cut by the first and the fourth bit in the thread cut by the second. By this means we are enabled to cut both or all of the threads in the cylinder at one operation and in much less time than would be required to cut a single thread of the same gage.

The bits of the tool should have their heels so shaped as to insure the proper clearance when the tool is cutting threads of coarse pitch.

We claim as our invention—

1. The within-described toothed cylinder for textile machinery, said cylinder having a multiple thread and a toothed strip wound in each thread, all substantially as specified.

2. The mode herein described of cutting a multiple thread in a cylinder by means of a single multiple-bit tool, said mode consisting in feeding the tool at a rate of speed which is as much greater than the gage of the tool as the number of threads to be produced is greater than a single thread, all substantially as specified.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

H. L. MOULTON.  
WM. H. CLARKSON.

Witnesses:

W. A. HORN,  
HARRY SMITH.