

R. W. COFFEE.
Spoke-Machines.

No. 138,616.

Patented May 6, 1878.

Fig. 1.

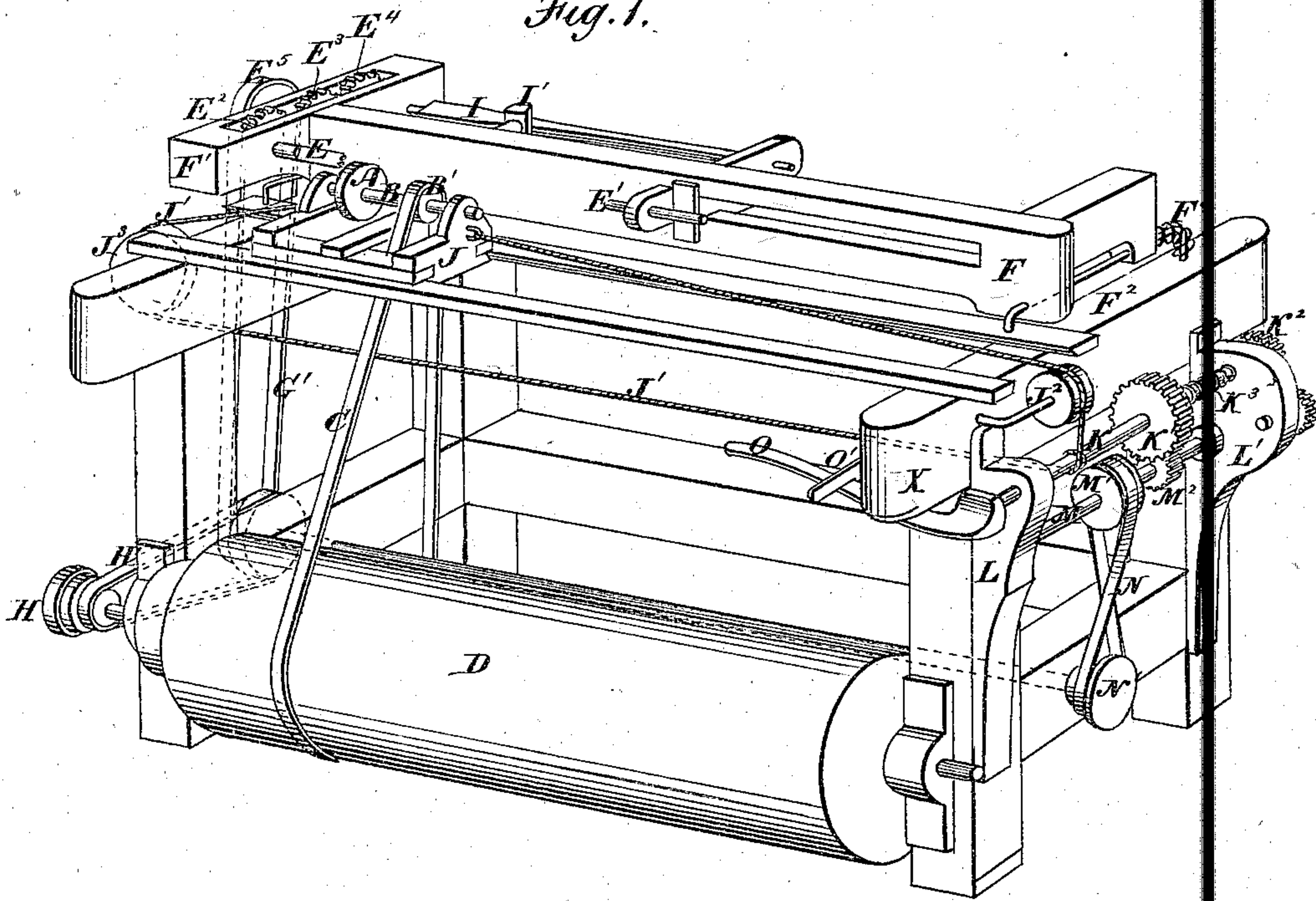
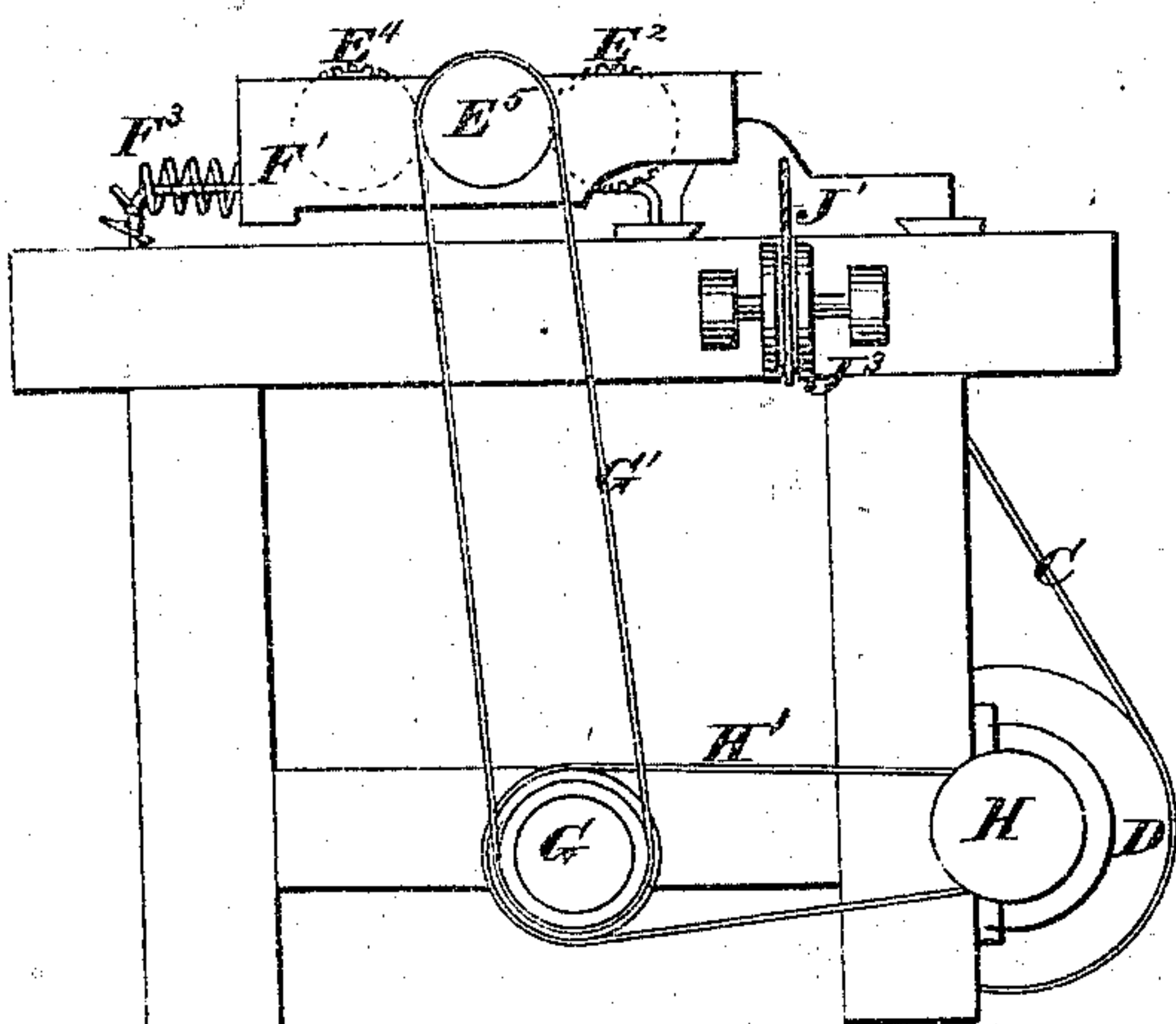


Fig. 2.

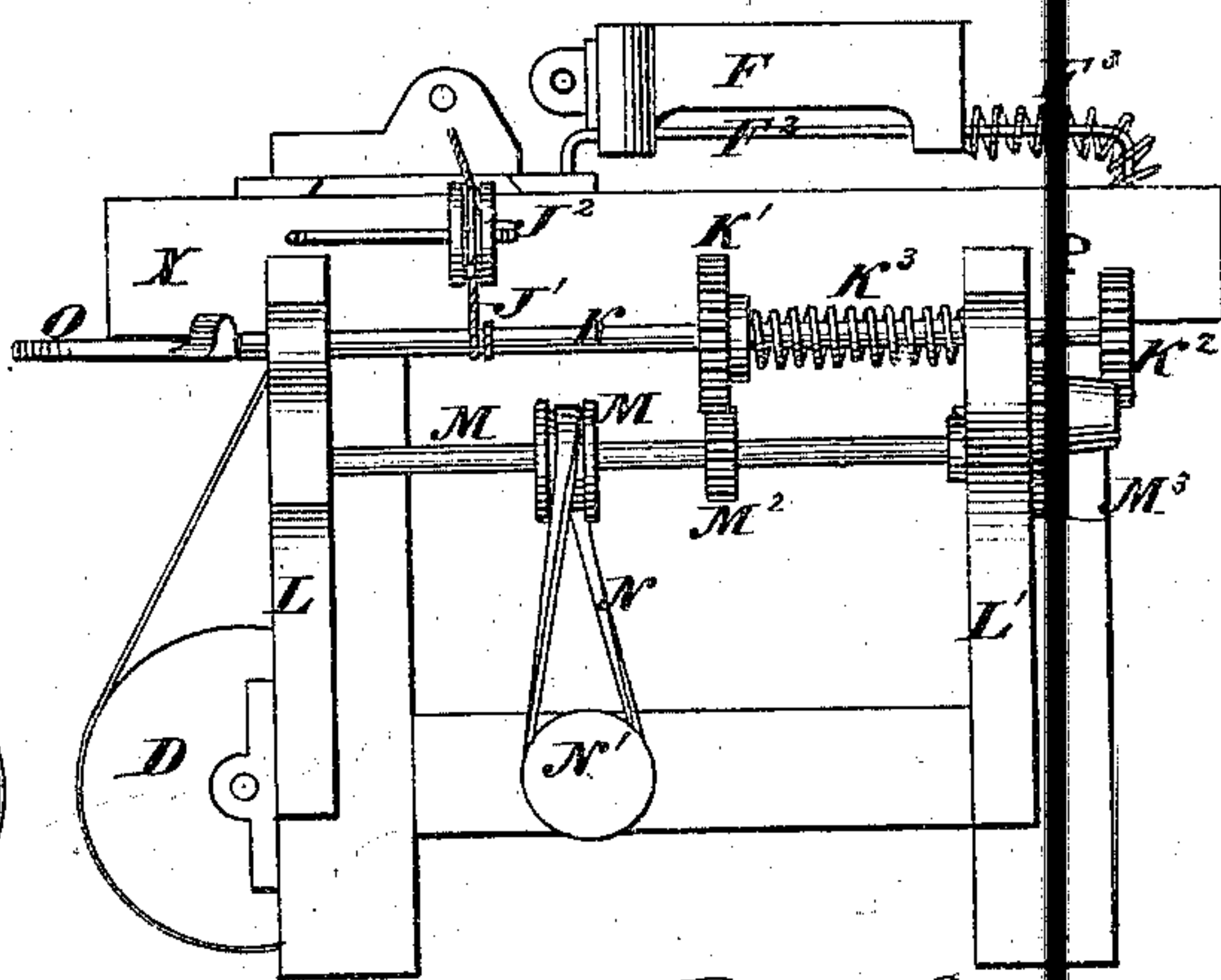


Witnesses.

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Aug. 3.



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UNITED STATES PATENT OFFICE.

ROBERT W. COFFEE, OF BIG SPRING, VIRGINIA.

IMPROVEMENT IN SPOKE-MACHINES.

Specification forming part of Letters Patent No. **138,616**, dated May 6, 1873; application filed March 22, 1873.

To all whom it may concern:

Be it known that I, ROBT. W. COFFEE, of Big Spring, in the county of Montgomery and State of Virginia, have invented an Improvement in Spoke-Machines; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is a perspective view; Fig. 2, an elevation of one end, and Fig. 3 an elevation of the other end, of the machine.

Similar letters of reference in the accompanying drawing denote the same parts.

This invention has for its object to improve the construction of machines for turning spokes in such a manner as to provide an apparatus by which the carriage containing the cutter-head and bits can be made to reciprocate along the spoke, which is held between chucks, for the purpose of cutting the spoke to the proper shape, and by which the carriage containing the spoke and pattern is made to vibrate, and the pattern kept pressed against the rest, which serves as a shaping-gage. To this end the invention consists in the construction and combination of parts, which I will now proceed to describe.

In the accompanying drawing, A is the cutter-head, the same containing the bits by which the spoke is cut, and placed on a shaft, B, which is rotated by means of a belt C, running over a wheel, B', on the shaft B, and also over the driving-drum D. E E¹ are the chucks which hold the spoke, the chuck E¹ being stationary and the chuck E rotary through the agency of gears E² E³ mounted in the recessed end piece F¹ of the carriage F, the gear E having a wheel, E⁵, on its shaft, which wheel is connected by a belt, G', with a fusee, G, mounted on the end of the machine-frame beneath, and connected by a belt, H', with another fusee, H, on the end of the shaft of the drum D. The gear E³ is connected with a gear, E⁴, in the same recess, which gear turns the pattern I. The carriage F slides on guides F², on each of which is a spiral spring, F³, which springs bear on the carriage F, and keep the pattern I pressed against the rest I', which serves as a shaping-gage, and is rigidly fastened to the frame J

that carries the cutter-shaft B. From this it will be seen that when the drum D is turned by the application of any suitable power the cutter shaft and head and the pattern I are also turned. A band, J¹, fastened to one end of the frame J, runs thence over a sheave, J²; thence to and around a shaft, K, mounted across the end of the machine-frame; thence back to and over a sheave, J³, at the other end of the machine-frame, and thence to the adjacent end of the frame J. The shaft K has a gear, K¹, at or near its middle, and a gear, K², at one end. Beneath the shaft K, and mounted in the same posts L L', is a parallel shaft, M, having on it a belt-wheel, M¹, a gear, M², and at one end a gear, M³, adjacent to the gear K². A belt, N, connects the wheel M¹ with a wheel, N', on the end of a shaft which extends lengthwise of the frame, and bears on its other end the fusee G; hence the shaft M turns when the drum D turns. O is a lever pivoted to the projecting end of the plate X of the machine-frame, and O' a catch with two notches. The shaft K is movable endwise by means of the lever O.

Suppose the cutter-head A in the position shown in Fig. 1, and you wish to set it in motion toward the right in order to cut the spoke held between the chucks E E¹; press the head of the lever O against the end of the shaft K until the upper notch of the catch O' falls behind said lever and fastens it, the spring K³ acting in opposition and keeping the shaft steady. This movement brings the gears K¹ and M² into connection, and therefore draws the frame J to the right through the medium of the shaft K and band J¹. The cutter-head A having by the continuation of said movement reached the end of the spoke, raise the catch O'. This allows the spring K³ to throw the shaft K backward until the gear K² engages with a gear, P, mounted on the outside of the post L, and turned by the gear M³. The gear P reverses the motion of the shaft K, and the frame J therefore moves in the opposite direction, traveling along the spoke toward the chuck E, and finishing the spoke as it goes. A new spoke is then put into the chuck, and the operation renewed.

Whenever it is desired to stop the frame J, the lower notch of O' is set behind the lever

O, and this disconnects the shafts K and M completely.

I claim as my invention—

1. The combination of the drum D, fusees G H, belts H' G' J¹ N, frame J, cutter-head A, sheaves J² J³, shafts K M, gears K¹ K² M² M³ P, spring K³, and lever O, all constructed and arranged to operate substantially as described.

2. The combination of the carriages F, pattern I, guides F², springs F³, rest I', frame J, and cutter-head A, all constructed and arranged to operate substantially as specified.

ROBERT W. COFFEE.

Witnesses:

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