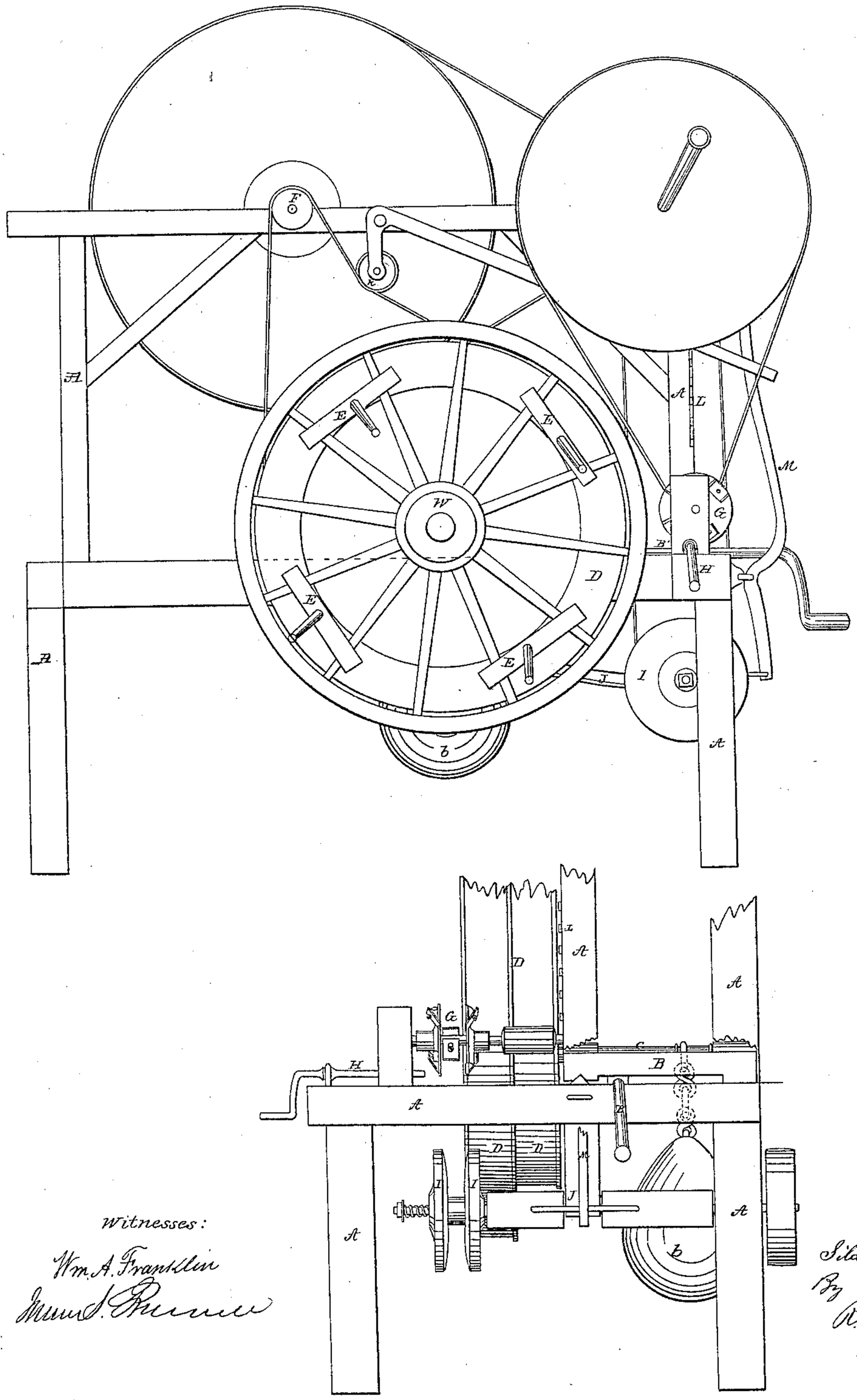
S. T. Jackson,

Dressing Wagon Wheels,

No. 50,130. Patented Sep. 26, 1865.



Witnesses:

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Inventor:

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UNITED STATES PATENT OFFICE.

SILAS T. JACKSON, OF SHEBOYGAN FALLS, WISCONSIN.

IMPROVEMENT IN MACHINES FOR DRESSING WAGON-WHEELS.

Specification forming part of Letters Patent No. **50,130,** dated September 26, 1865.

To all whom it may concern:

Be it known that I, S. T. JACKSON, of Sheboygan Falls, in the county of Sheboygan and State of Wisconsin, have invented a new and useful Improvement in Machinery for Manufacturing Wagon-Wheels; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of my machine. Fig. 2 is an end elevation of the lower portion of the same.

The nature of my invention consists in a novel arrangement of the parts of a machine for planing and smoothing two sides and the edge of the wheel-felly at the same operation.

That others may understand the construction and operation of my machine, I will particularly describe it.

A A are timbers composing the frame of my machine. Upon a suitable part of this frame is mounted a carriage, B, which has a longitudinal movement upon its guide or ways, and is moved by a screw, B′, or by any other suitable means, and may be kept upon its bed by any convenient and efficient appliance, as a heavy weight, *b*, &c.

Upon the carriage B, and at right angles to its line of motion, is mounted the shaft C, and upon the projecting end of said shaft is the large bearing-wheel D, to the face of which the wagon-wheel W is secured by the clamp E. The wheel D is caused to revolve by a belt from the driving-pulley F, and may be provided with a cone, so as to accommodate its speed to the size of the wagon-wheel to be planed and dressed, as it is evident that there is a certain circumferential speed of the wheel W in relation to the speed of the cutters G, which is best adapted to the production of a good surface; and in order to maintain such a relative speed a large wagon-wheel must be revolved on its axis more slowly than a small one.

Upon a suitable part of the frame, opposite to the edge of the carrying-wheel D, is the planer G. It consists of two disks set upon a shaft and provided with adjustable cutters. The disks are movable on their shafts and can be set at any necessary distance apart to accommodate the thickness of the felly to be dressed. Upon the shaft, between the planer-disks, may be placed suitable cutters for dressing the edge of the felly at the same time that the planers are dressing the sides of the same. These cutters, revolving at a fixed distance from the center of the wheel, will dress the edge down to a line truly concentric to said center. If from deficiency of power or other cause it be desirable to operate upon only one side of the felly at a time, the shaft of the planer G may be moved endwise by the screw H or its equivalent, so as to bring the cutters to one side, and when that side has been completed to bring them to the other side. In such a case the disks G would necessarily be set a little farther apart than when both sides of the felly were to be dressed at a single operation and the cutters brought alternately to the work by the screw H. After passing from the planer the felly passes between two smoothing-disks, I, coated with fine sand or other suitable material. The shaft upon which these smoothing-disks are hung is supported in a frame which slides in curved ways J, said curve being the arc of a circle whose center is the center of the pulley which drives said shaft and smoothing-disks, and are so made for the purpose of permitting a longitudinal movement of said disks and shaft without changing the driving-power of the belt by slackening or tightening the same.

In order to secure the proper delicacy of touch to impart the best finish to the surface of the felly, the disks I are pressed against the surface to be smoothed by a spring, the tension of which may be regulated by a screw-nut, as represented.

The whole mechanism is set in motion by any convenient arrangement of pulleys or other gearing connected to any available power.

Having described the construction of the essential parts of my machine, I will describe its operation.

The wagon-wheel W being ready, it is clamped to the bearing-wheel D by means of the clamps E or any other suitable device. It may be properly centered in any ordinary or convenient way. When the wheel W has been properly secured the machinery is set in motion, and the carriage B is moved by means of the screw B′ or other power until the felly has ad-

vanced between the cutters of the planer G. It will have been observed that the pulley F is not vertical to the axis of the shaft C of the bearing-wheel, but is placed above and behind it. The reason of this arrangement is that when the bearing-wheel is run back with its carriage so as to be free from the cutters, then its driving-belt will be so slack that, although the rest of the mechanism of the machine be in full motion, the bearing-wheel D will not revolve; but as the carriage B is moved toward the cutters the belt is tightened more and more until the wheel D moves with the other machinery at its proper speed. In order to secure this result and to be able to control it as desired, and in consideration of the diameter of the wheel to be dressed and the relative positions of the pulley F and axle C, the tightening-pulley K is added, which, by means of its lever and the rack L, may be set so as to secure the desired pressure on the belt at any position of the carriage B, or when the belt is upon either face of the cone-pulley of the bearing-wheel D. I am thus enabled to dispense with loose pulleys and shifters to enable me to stop the motion of the wheel W for the purpose of inspection or otherwise without stopping the motion of the whole machine. The smoothing-disks I I are brought up to the work by means of the lever M or any other convenient means, the spring outside of said disk regulating the pressure with which they bear against the surface to be smoothed.

I am aware that Letters Patent have been granted to H. S. Jacobs in 1863 and to J. M. How in 1865 for machines for dressing the fellies of wagon-wheels, and that in some respects said machines resemble mine; but upon scrutiny it will be found that my machine possesses the following features not in common with them, viz: The planers set upon a single shaft, so that when dressing only one side of the felly at a time the operation of removing one set of cutters brings the other set to the work. There is also a saving in first cost and a saving in power, due to a reduction of friction. Such a construction enables the attendant to throw the bearing-wheel in and out of gear without the use of loose pulleys and shifters. Such a construction renders it possible to maintain the proper relative speed between the work and the planers, irrespective of the diameter of the wheel operated upon, and in the addition of smoothing and finishing disks for the purpose of completing the work of dressing the wheel.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination of a bearing-wheel, D, planers G, and smoothing-disks I, operated and operating substantially as and for the purpose set forth.

SILAS T. JACKSON.

Witnesses:
JAMES HANFORD,
DWIGHT HILLS.