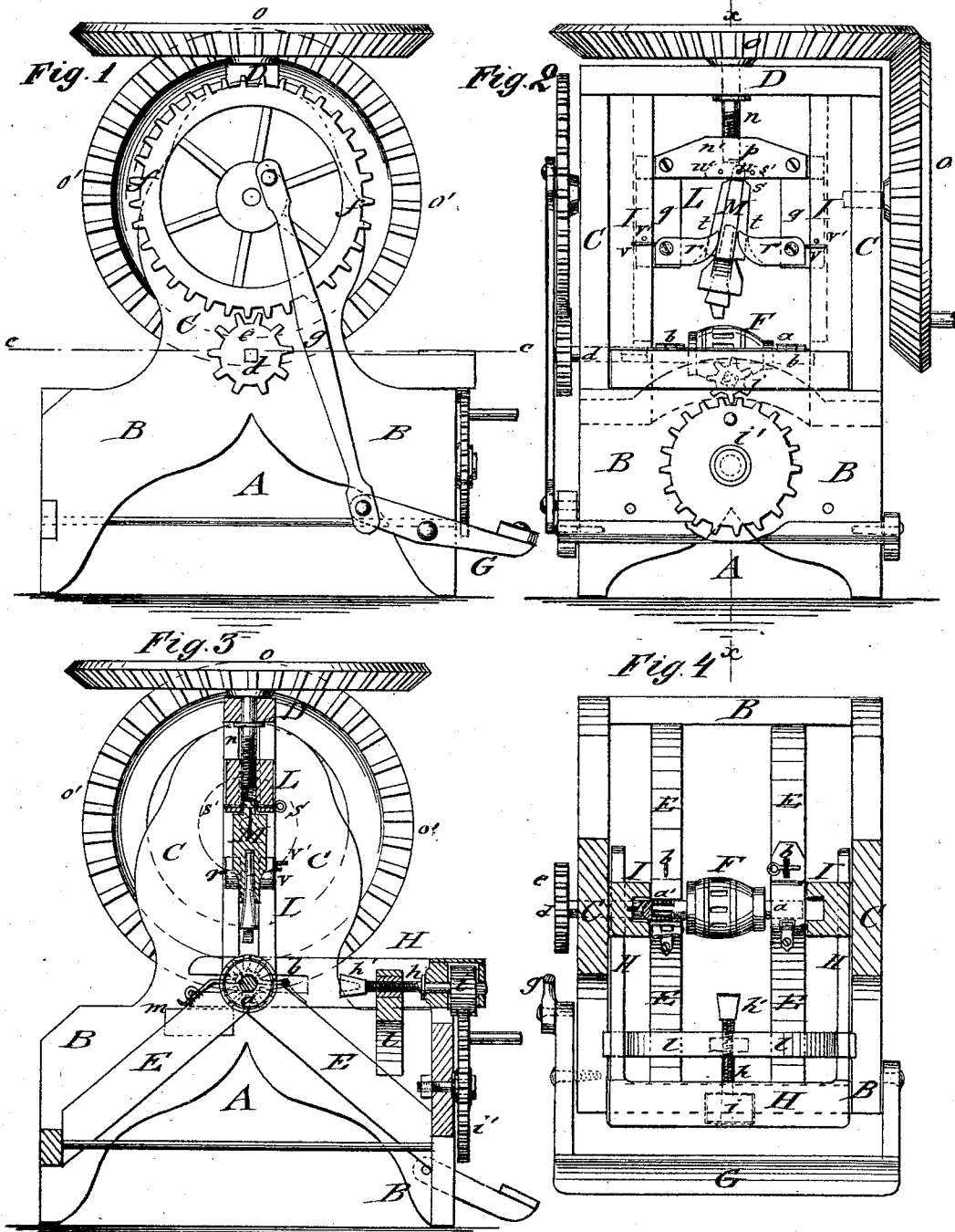


W. R. GREENE.
Spoke-Setting Machines.

No. 144,900.

Patented Nov. 25, 1873.



Witnesses:

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WILLIAM R. GREENE, OF JUDA, WISCONSIN.

IMPROVEMENT IN SPOKE-SETTING MACHINES.

Specification forming part of Letters Patent No. **144,900**, dated November 25, 1873; application filed August 23, 1873.

to all whom it may concern:

Be it known that I, WILLIAM R. GREENE, of Juda, in the county of Green and State of Wisconsin, have invented an Improvement in a Spoke-Setting Machine, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a side elevation of my spoke-setting machine. Fig. 2 is a front view; Fig. 3, a vertical longitudinal section on the line *x x*, Fig. 2; and Fig. 4, a top view of the same, partly in section of the line *c c*, Fig. 1.

Similar letters of reference indicate corresponding parts.

My invention consists in mechanism for setting the spokes into the hubs, tenoning the outer ends of the spokes so set, and turn the sides of the felloes and the circumference of the wheel, as will be more fully described hereafter, and pointed out in the claims.

In the drawing, A represents the main frame of my spoke-setting machine, consisting of base-frame B and vertical standards C, which are laterally connected by top piece D. Frame A is made of suitable strength and dimensions to support the different parts of the machine. The inclined braces E are supported by the main frame A in the longitudinal direction of the same, and carry laterally, in suitable bearings, the detachable shaft *a*, on which the hubs F are keyed for spoke-setting and other operations. The hinged lock-plates *b* secure the shaft *a* in the bearings of braces E. Shaft *a* fits with its square end *a'* into the recessed shaft *d*, which turns in brace E and base-frame B, having a cog-wheel, *e*, keyed to the outer side of the same, to which motion is imparted by a larger gear-wheel, *f*, connected by rod *g* with a treadle mechanism, G, or other suitable power. The hubs F are placed rigidly on shaft *a*, which is inserted into shaft *d*, locked by plates *b*, and then turned by hand, or other mechanical appliances, in the usual manner for setting the spokes. The spoke-setting mechanism consists of two vertical recessed guide-pieces, I, in which slides the lateral setting-frame L, which is carried up and down by the action of screw-bolt *n*, passing through top piece D, and actuated by suitable gear-wheels *o* and *o'*. The motion may also be communicated by hand or other motive power, as

desired. The setting-frame L consists of the strong top piece *p*, with socket *n'* for screw *n*, the sliding pieces *q*, and the bifurcated clamps *r*, which are pivoted to the lower ends of slide-pieces *q*. The clamps *r* carry, in connection with a pin, *s*, the sleeve M, of cast-iron or other suitable material, into which the spokes are firmly placed for setting into the hub F. The side flanges *t* of sleeve M are of wedge shape, and are embraced by the prongs of clamps *r*, which rigidly hold sleeve M in position. The upper lug-shaped end *u* of sleeve M is introduced into a recess, *u'*, of top piece *p*, and adjusted there by holes *s'* and pin *s* to the inclination under which the spokes are to be set into the hub. The clamps *r* are for the same reason not of equal size, but one is shorter than the other. The frame L slides with sleeve M down toward hub F, which is adjusted in position for it, and sets each spoke with accuracy and dispatch, in a manner superior to hand work. On the return of frame L, horizontally-projecting rods *v* of clamps *r* strike pins *v'* of guide-pieces I and force the clamps *r* thereby upward, so that another spoke may be inserted into sleeve M, and the same operation be repeated. The sleeve M may be constructed so that one side opens on hinges, which allows the ready insertion of the spokes after the clamps *r* are detached. The spokes are rapidly and uniformly set in their proper place without having their ends battered or split, or otherwise injured. They are then ready to be tenoned at their outer ends, which is accomplished by a burr set into a socket, *h'*, of horizontal shaft *a*, which is rotated by gear-wheels *i* and *i'* at the front end of frame B. The broader gear-wheel *i* is set into a guide-frame, H, which is carried forward and backward by means of a screw-thread of lateral arch-piece *l*. The guide-frame H slides on suitable supports, *m*, at the inner sides of frame B, being suitably recessed on one side for shaft *d*. After all the spokes are tenoned at their outer ends, the burr and arch *l* are taken off to give room for putting on the felloes. The wheel is lastly turned by the treadle mechanism G, and the sides of the felloes and the edge of the same produced as nearly round as possible.

Having thus described my invention, I claim

as new, and desire to secure by Letters Patent—

1. The spoke-setting frame L, consisting of top piece *p*, slide-pieces *q*, and bifurcated clamps *r*, which hold the sleeve M, as set forth.

2. The sleeve M, having wedge-shaped side ribs *t* and perforated end *u*, for the purpose described.

3. The grooved guide-pieces I, having stops or pins *v'*, for engaging rods *v* of clamps *r* and detaching them from sleeve M, as described.

4. The bifurcated clamps *r*, being arranged

of different lengths to hold sleeve M in inclined position, and having rods *v*, for the purpose specified.

5. The combination of spoke-setting frame *h*, sleeve M, guides I, frame A, and gearing *o* *o'*, for seating the spokes in the hubs, arranged substantially as and for the purpose described.

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Witnesses:

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