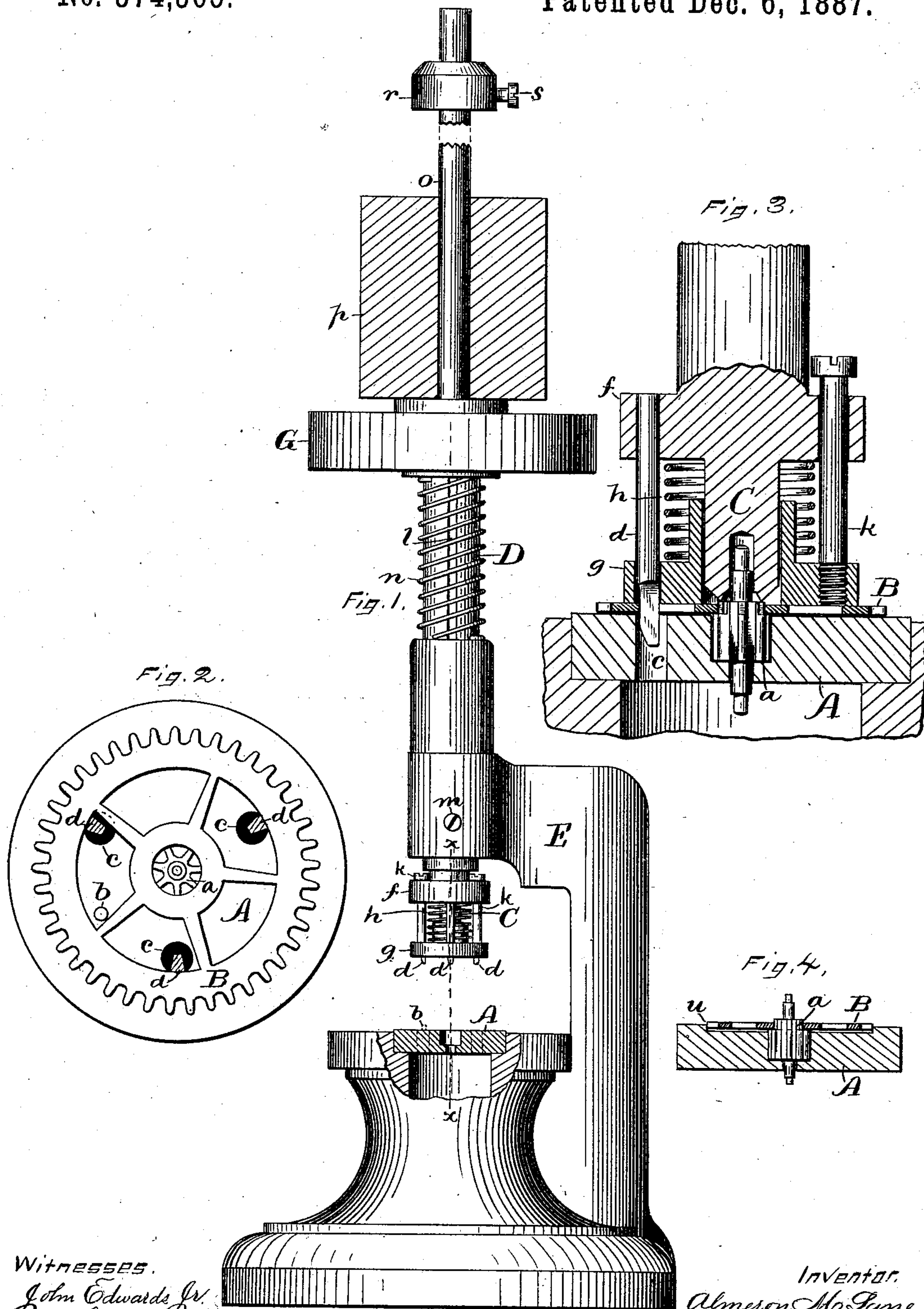


(No Model.)

A. M. LANE.
STAKING TOOL.

No. 374,365.

Patented Dec. 6, 1887.



Witnesses.
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UNITED STATES PATENT OFFICE.

ALMERON M. LANE, OF MERIDEN, CONNECTICUT.

STAKING-TOOL.

SPECIFICATION forming part of Letters Patent No. 374,365, dated December 6, 1887.

Application filed March 31, 1887. Serial No. 233,231. (No model.)

To all whom it may concern:

Be it known that I, ALMERON M. LANE, a citizen of the United States, residing at Meriden, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Machines for Staking Wheels, of which the following is a specification.

My invention relates to devices for securing wheels upon their tenons, or, as it is technically called, "staking wheels," and the objects of my invention are to produce better work and at less cost.

In the accompanying drawings, Figure 1 is a side elevation of my machine, partly in section. Fig. 2 is an enlarged plan view of the die of said machine, together with a wheel and pinion placed thereon, and a horizontal sectional view of the centering-prongs. Fig. 3 is an enlarged vertical section, partly in elevation, of parts of my machine and said wheel and pinion, the plane of section being taken on line *xx*, Fig. 1; and Fig. 4 is a vertical section of a modified form of die, together with a wheel and an elevation of the pinion.

A designates the die, having a central socket for receiving and holding the part to which the wheel B is to be staked or fastened. As shown, that part is the pinion *a*, having a tenon at its upper end. The socket in the die is of such relative depth to the pinion that the shoulder of the tenon will be fully as high as the surrounding upper face of the die. In the preferred form this die is also provided with a gage-pin, *b*, Fig. 2, for the purpose of setting the spokes of the wheel in a given position over the die. In the section shown in Fig. 1 this pin would not be seen, as it is on the front part of the die; but its position is indicated by broken lines in said figure. The die A is also provided with three openings, *c*, to permit the centering-prongs *d* to pass inside the rim of the wheel A, as shown in Figs. 2 and 3. The centering-prongs *d* have their upper ends rigidly secured in punch-flange *f*, while their lower ends pass loosely through holes in the leveler *g*. This leveler is yielding and slides freely up and down on the body of the punch or set C, under the punch-flange *f*, and is forced downward by the spring *h*. Guide pins or screws *k*, passing through the punch-

flange *f* and into the leveler *g*, limit the downward movement of said leveler.

The punch C, with the leveler fitted thereon, is secured to or formed on a slide or shaft, D, which is free to be moved up and down in the frame E of the machine, but prevented from turning axially therein, in any ordinary manner—as, for instance, by means of the slot *l* and screw *m*. The punch-slide is also provided with a flange, G, which serves as a handle, and with a spring, *n*, to hold the punch and connected parts in their elevated position, as shown in Fig. 1. Above the flange or handle is a rod, *o*, and sliding weight *p*.

A die and punch for a given wheel and pinion being in the machine, the pinion is placed in the socket of the holding-die A, and the wheel B placed on said die and pinion with one spoke against the gage-pin *b*, as shown in Fig. 2. The operator then grasps the flange or handle and brings the punch-slide down. The centering-prongs, whose ends are beveled off a little, enter inside the rim of the wheel and center it, the prongs being light and springy to better accommodate themselves to the work. The leveler also strikes the face of the wheel and levels it on the tenon, while the spring allows it to yield until the end of the punch rests on the end of the tenon, as shown in Fig. 3, the punch, of course, being bored out, so as not to interfere with the pinion-shaft. The operator thus holds the punch in place with one hand, while with the other he raises the weight *p* a given distance, determined by the position of the collar *r* and set-screw *s*, and then lets it fall, thereby driving the punch against the end of the tenon with sufficient force to spread the metal and fasten the wheel thereon. The parts are then released and return to their normal position, ready for a repetition of the operation.

The centering device consisting of the three yielding prongs, as described, is the preferred one; but it will be observed that it is useful only with wheels so made that the inside of their rim is concentric. In some cases wheels are not thus made, and therefore I have shown a centering device in Fig. 4 which centers the wheel from its periphery. In this case the die A has the same central socket for the pinion, and concentric therewith a shallow

depression, *n*, of a diameter that the wheel will just fill. This die will be used in the manner before described with the punch, leveler, slide, and weight, except that the centering-prongs will be omitted.

While I do not wish to limit myself to driving the punch-slide by means of the sliding weight, such weight is preferred on account of the uniformity in the force of its blow.

I claim as my invention—

1. In a device for staking wheels, the combination of the holding-die, a centering device, the yielding leveler, and the sliding punch, substantially as described, and for the purpose specified.

2. In a device for staking wheels, the com-

bination of the holding-die with the sliding punch, the yielding leveler, and the centering-prongs, substantially as described, and for the purpose specified.

3. In a device for staking wheels, the combination of the holding-die, the frame E, the sliding punch, the leveler, the spring *n*, for elevating said punch, the handle for depressing said punch, and the driving-weight and its guide-rod, substantially as described, and for the purpose specified.

ALMERON M. LANE.

Witnesses:

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