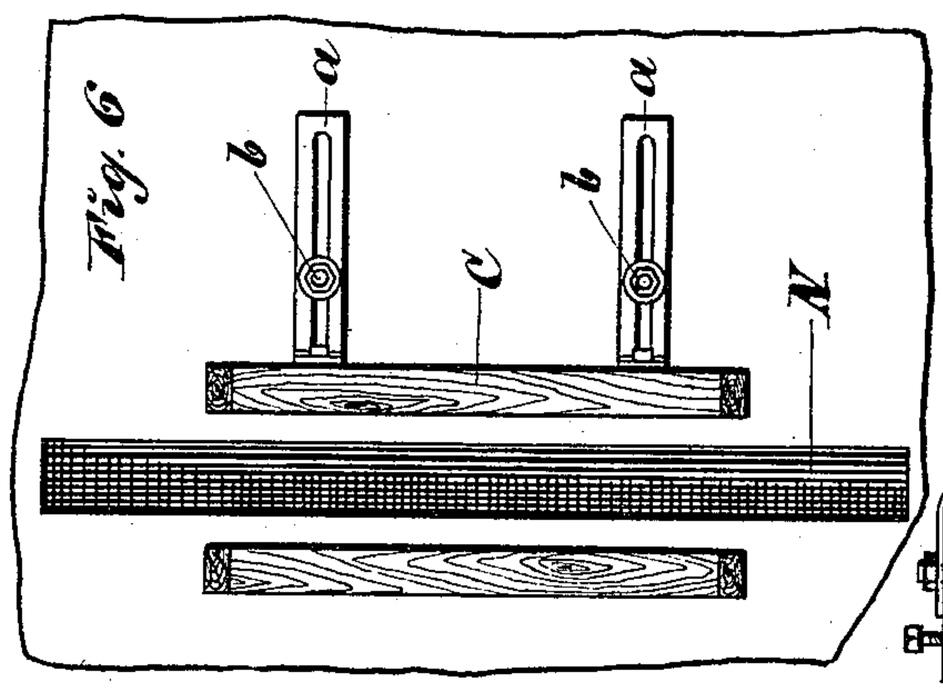
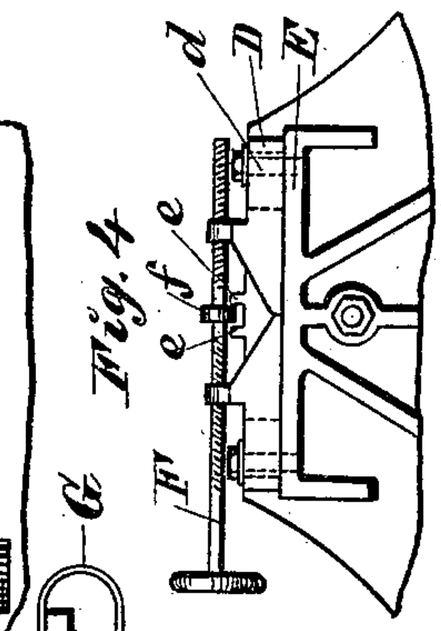
(No Model.)

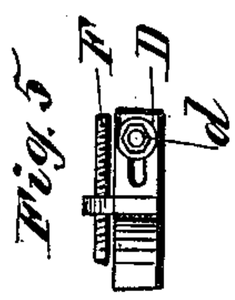
L. RAKOW.

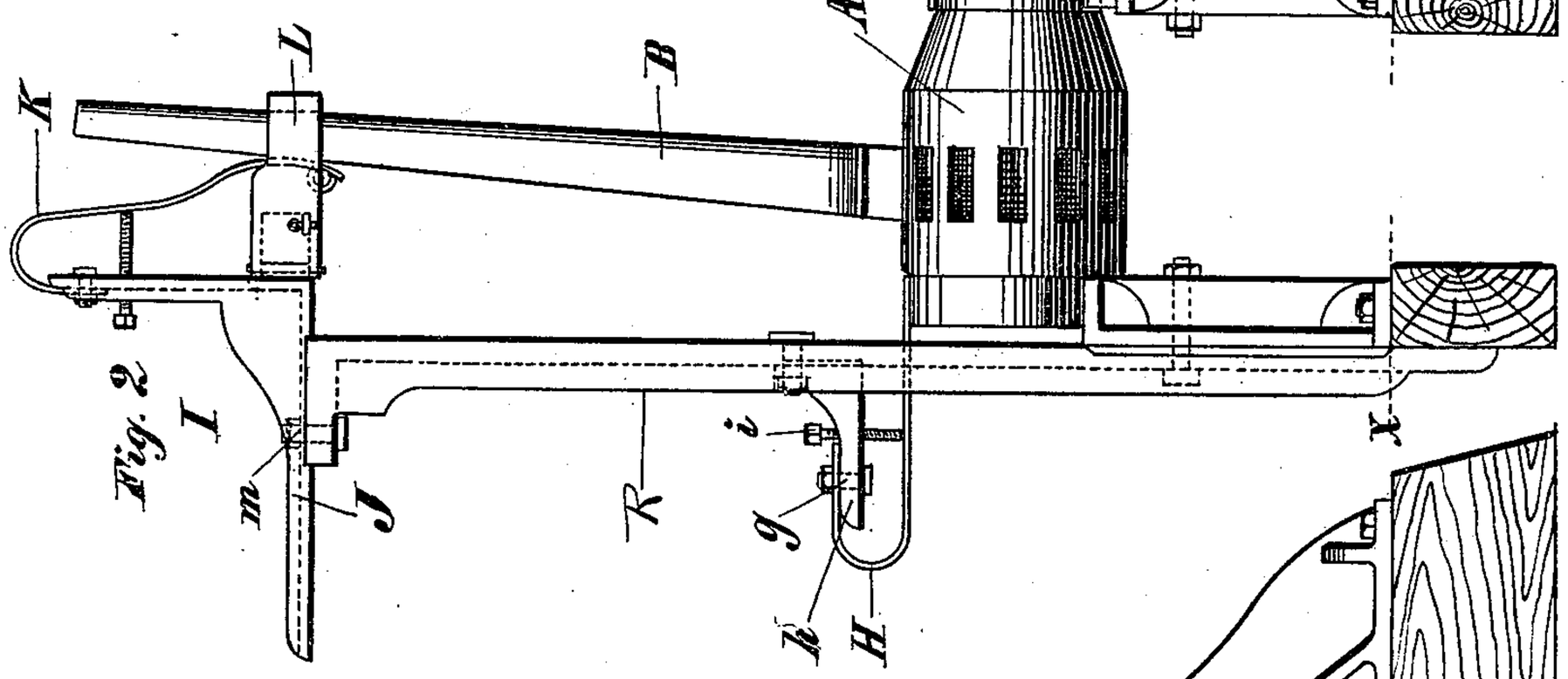
SPOKE DRIVER.

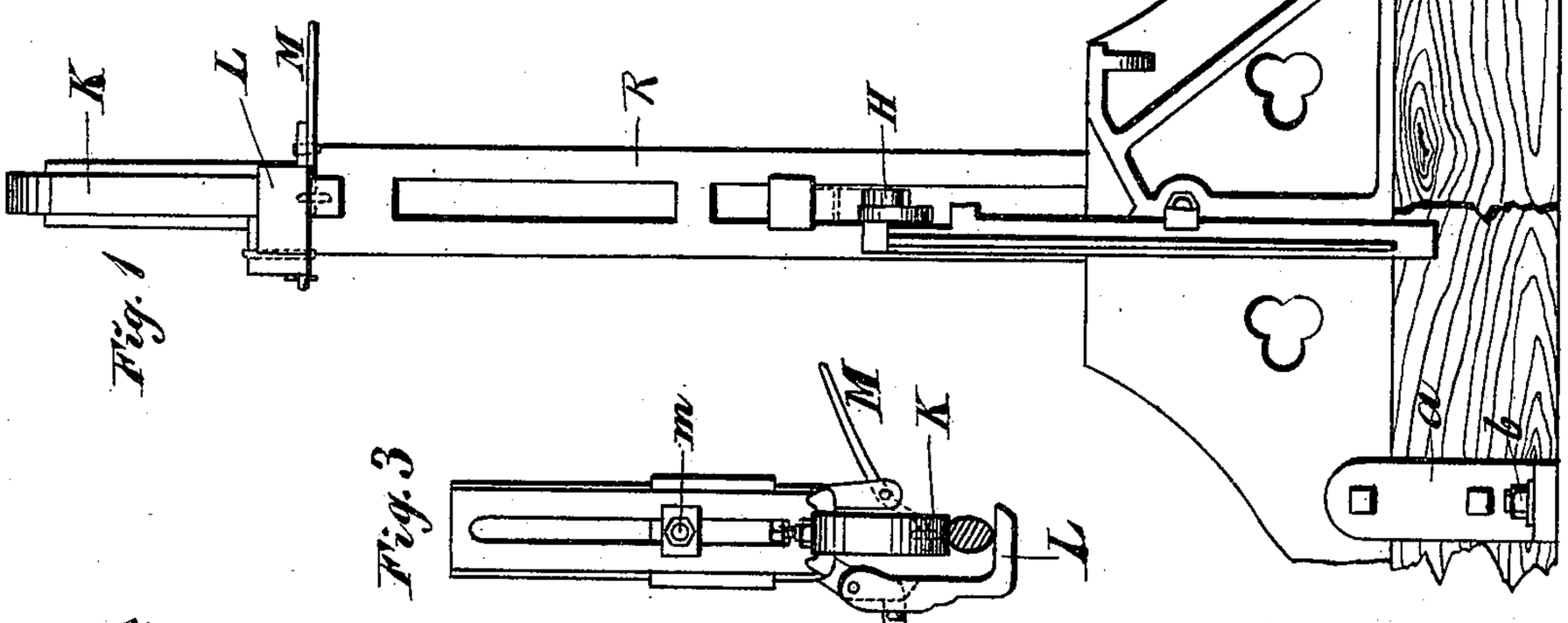
No. 335,308. Patented Feb. 2, 1886.











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UNITED STATES PATENT OFFICE.

LOUIS RAKOW, OF ELMHURST, ILLINOIS, ASSIGNOR TO WILLIAM H. LITCHFIELD, OF SAME PLACE.

SPOKE-DRIVER.

SPECIFICATION forming part of Letters Patent No. 335,308, dated February 2, 1886.

Application filed June 3, 1885. Serial No. 167,544. (No model.)

To all whom it may concern:

Be it known that I, LOUIS RAKOW, a citizen of the United States, residing at Elmhurst, in the county of Du Page and State of Illinois, have invented certain new and useful Improvements in Spoke-Drivers, which improvements are fully set forth and described in the annexed specification, reference being had to the drawings accompanying the same, and which are made a part of this specification, in which—

Figure 1 is an end elevation of my improved spoke-driving machine, the lower part of the front being cut away. Fig. 2 is a side elevation of my improved spoke-driving machine. Fig. 3 is a plan of the spoke-holder and spring for holding the spoke in position. Fig. 4 is a detail view of my arrangement for adjusting the blocks which support the hub in front. Fig. 5 is a plan view of one of the supporting-blocks. Fig. 6 is a plan section taken on the line *x x*, Fig. 2, showing the method of adjusting the beds.

My improvements relate to that class of machines known as "spoke-drivers" or "spoke-driving" machines, and are particularly designed to regulate the dish of the spoke when driven in the wheel, and also to afford convenient and suitable supports for the hub and insure uniformity in the position of the spokes relative to the hub and felly.

I will now proceed to minute and particular description of my invention, reference being had to the drawings, in which like parts are represented by the same letters in different figures.

A is the hub of a wheel to which it is desired to fit and adjust spokes. B is one of the spokes to be fitted or adjusted in the hub. In order to do this the length of the hub is determined, and the front bed, C, which carries the front support for the hub, is adjusted in proper position by means of the brackets *a*, and the set-screws are fastened in the floor. This distance between the beds having been determined, and the front bed, C, having been properly adjusted, the next thing to be done is to adjust the blocks D, which support the front of the hub. The face or front portion of the hub being of such varying diameters in different wagons, it is necessary that these blocks should be adjustable, so that they may furnish suitable and convenient support for the hub. These blocks are V-shaped and slide on the bed E, which is supported by the front bed. These blocks D are bolted to the bed or support E by bolts *d*, which run in slots in the bed; or the bolt may be screwed into the bed and slots made in the blocks, as shown in the drawings, Fig. 5. In the center of the bed there are two lugs, *e e*, and these are for the purpose of preventing the right-and-left screw F from moving laterally. This is done by means of the collar *f*, fastened to the screw; or it may be cast upon the screw. This right-and-left screw threads in nuts attached to the V-shaped blocks D, and the screw is furnished at one end with a crank, by means of which the screw is turned, but being held from lateral movement by means of the lugs *e e* and the collar *f*, the blocks D are moved backward and forward—that is, toward and from one another—in order to in a measure clamp the lower arc of the front of the hub. The hub is kept down upon these blocks D by means of the spring G. The rear end of the hub is supported on similar V-shaped blocks, which are, however, set rigidly in the frame, as the diameter of the rear end of the hub is not nearly so variable as is the diameter of the front, so it is unnecessary to make these blocks which support the rear end adjustable. The hub is, however, held down on the blocks at the rear end in the same way that it is held down in front by means of a spring, H. These springs G and H are so nearly exactly alike that it will be only necessary to describe one of them. I will only describe the spring H and its adjustment to the frame. There is a bracket, *h*, fastened to the frame, and the spring is attached to this bracket by means of the bolt *g*. There is a screw set-pin, *i*, which comes down upon the spring and holds it snug against the hub. The hub being adjusted in position in accordance with the foregoing description, a spoke is introduced at its lower end in position to be driven into the hub. Attached to the upper part of the rear bed is the altitudinally-adjustable post R, on which rests the spoke-supporter I. This spoke-supporter consists of the bracket J, spring K, spoke-clamp L, and hand-lever M.

In order to give any desired angle to the spoke, or, in other words, to dish the wheel

as may be desired, the spoke-supporter I is run backward and forward on the frame-support. This is accomplished through the medium of the bolt *m*, by which the supporter is held to the frame or post R of the machine and the slot in the bracket of the spoke-supporter. The position of the supporter having been determined and the spoke placed with its lower end in position to be driven into the hub, the clasp L is brought around the spoke, and the spring K, pressing against the spoke on its rear side, holds it up snug against the clasp L. As the spring K is grooved or trough-shaped it affords, in connection with the clasp, an admirable means of holding the spoke while it is being driven. When the spoke has been driven home, the hand-lever M is used to press back the spring, which allows the spoke to recede slightly from the clasp L, when the same, being hinged to the bracket J, is easily thrown back and the spoke released. The wheel is then turned around until the hub comes in position to receive another spoke. There is a slot cut in the floor, as shown in Fig. 6. This is the slot N, and it allows the wheel to be thoroughly revolving, even when all of the spokes have been adjusted.

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

1. In a spoke-driving machine, the front bed, in combination with the adjustable blocks D, beveled or V-shaped on their inner faces, substantially as and for the purposes set forth.

2. In a spoke-driving machine, the bed E, in combination with the movable V-shaped blocks D, provided with slots, fastening-bolts *d*, and an adjusting device, whereby the blocks are set to and from each other, substantially as and for the purposes set forth.

3. In a spoke-driving machine, the bed E, provided with lugs *e*, in combination with the V-shaped blocks D, mounted and movable thereon, and the adjusting-screw F, running in eyes on the block and provided with a collar, *f*, held between the lugs *e*, substantially as and for the purposes set forth.

4. In a spoke-driving machine, the front bed provided with a seat for the front end of the hub, in combination with the bent spring G, arranged in line with the hub and at one end attached to the frame while the free end rests upon the end of the hub, substantially as and for the purposes set forth.

5. In a spoke-driving machine, the front bed-piece provided with a seat for the nose of the hub, in combination with the bent spring G, arranged in line with the hub, and having its free end resting on the latter, and the set-screw *i*, substantially as and for the purposes set forth.

6. In a spoke-driving machine, upright supports for the ends of the hub, provided with seats for the latter, in combination with the bent springs G and H, arranged in line with the hub and with their free ends resting on the latter, and the set-screws *i*, bearing upon said springs, substantially as and for the purposes set forth.

7. In a spoke-driving machine, the upright bed-supports for the hub, provided with suitable seats, in combination with the bent springs G and H, arranged in line with the hub, vertically-adjustable brackets to which the springs are respectively attached at one end, and the set-screws *i*, bearing upon said springs, substantially as and for the purposes set forth.

8. In a spoke-driving machine, an adjustable spoke support or holder, in combination with a spoke-clasp hinged to said holder, and a holding-spring attached at one end to said holder also, while the other end is arranged to press against the spoke, whereby both clasp and spring are made adjustable with the holder, substantially as and for the purposes set forth.

9. In a spoke-driving machine, the upright post R, in combination with the slotted bracket J, mounted adjustably thereon, the spoke-clasp L, pivoted to the bracket, and the spoke-holding spring K, fastened at one end to the bracket, while the other is arranged to press the spoke against the clasp, substantially as and for the purposes set forth.

10. In a spoke-driving machine, the horizontally-adjustable bracket J, in combination with the support R, the spoke-clasp L, pivoted thereto, holding-spring K, attached at one end thereto, and the set-screw mounted in the bracket and working against the spring, substantially as and for the purposes set forth.

11. In a spoke-driving machine, the bed-support, in combination with the vertically-adjustable post R, the bracket attached thereto, the spring H, mounted on the bracket, the bracket J, mounted on the post and horizontally adjustable thereon, and the spoke-clasp L and holding-spring K, both attached to bracket J, substantially as and for the purposes set forth.

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