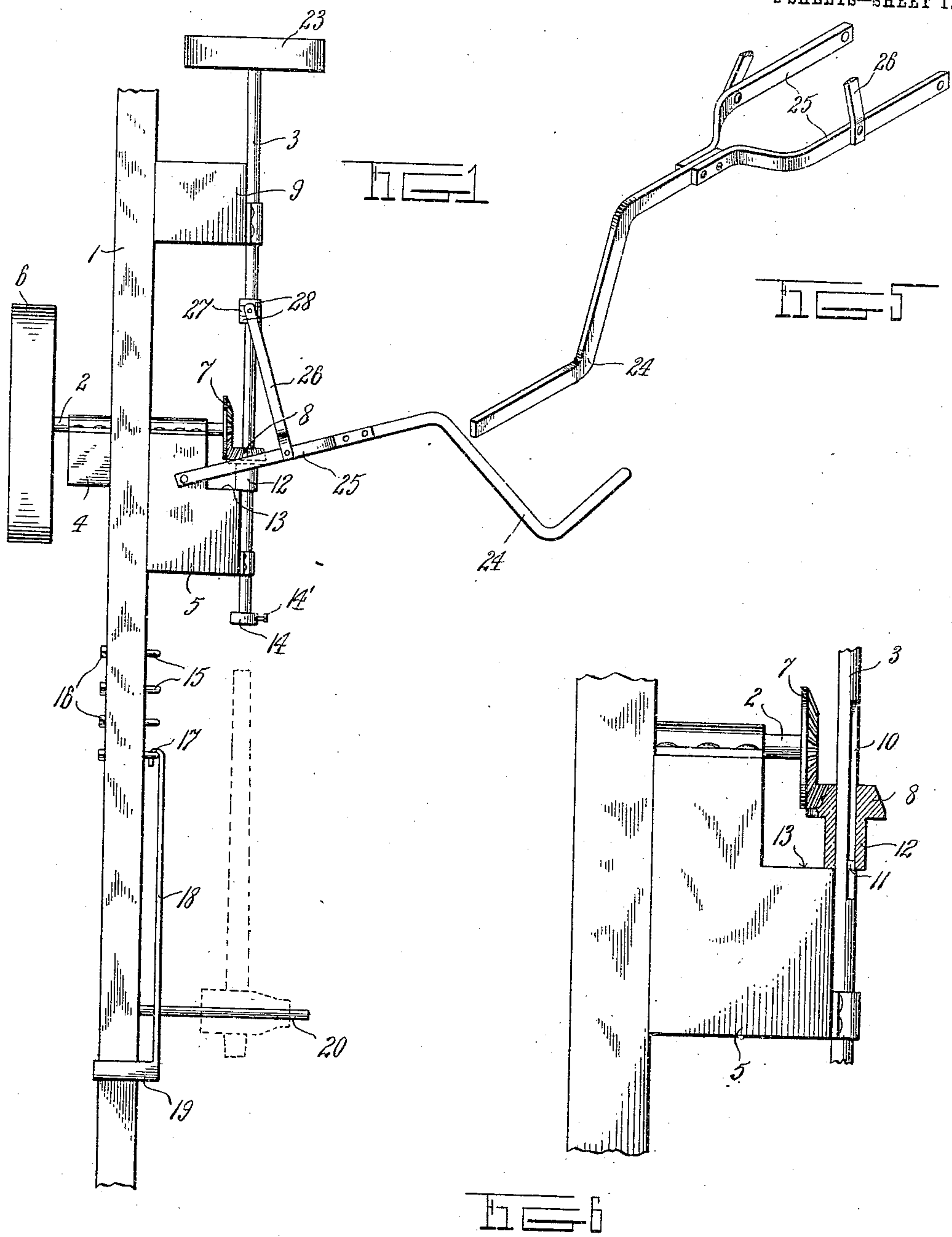


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954,985. Patented Apr. 12, 1910.

2 SHEETS—SHEET 1.



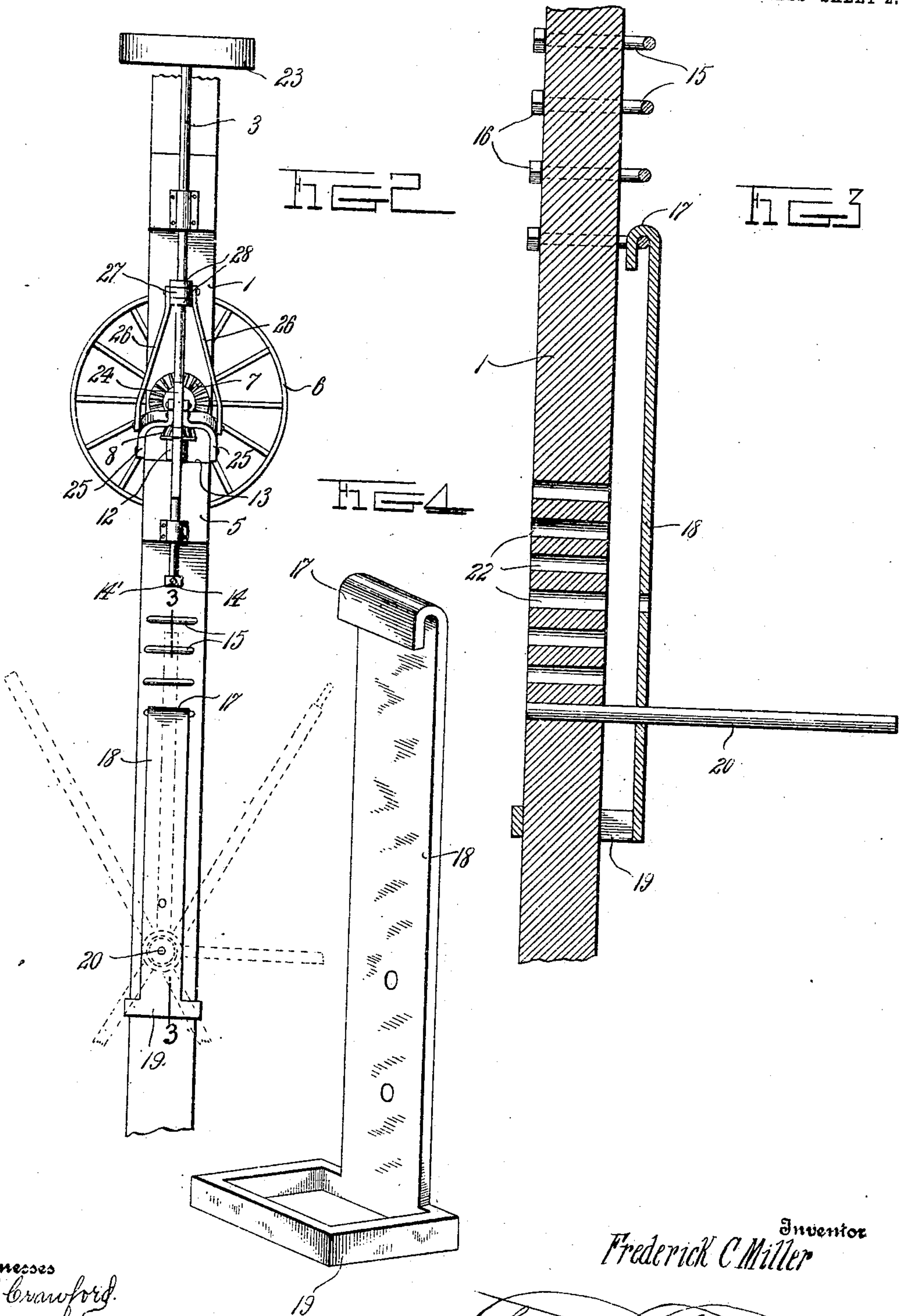
Witnesses  
J. H. Crawford.  
M. J. Miller.

Inventor  
Frederick C. Miller

By *Charles C. Chynoweth*  
Attorneys

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Witnesses  
J. H. Crawford.  
M. J. Miller.

Inventor  
Frederick C. Miller  
By *Donald Chandler*  
Attorneys



# UNITED STATES PATENT OFFICE.

FREDERICK C. MILLER, OF MARKHAM, TEXAS.

## TENONING AND POINTING MACHINE.

954,985.

Specification of Letters Patent. Patented Apr. 12, 1910.

Application filed October 14, 1908, Serial No. 457,717. Renewed March 3, 1910. Serial No. 547,126.

*To all whom it may concern:*

Be it known that I, FREDERICK C. MILLER, a citizen of the United States, residing at Markham, in the county of Matagorda, State of Texas, have invented certain new and useful Improvements in Tenoning and Pointing Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention has reference to improvements in machines for tenoning and pointing spokes and it aims, generally, to provide an extremely simple, readily-operated and efficient machine of that type in which the spokes are successively moved into operative position by merely rotating the wheel hub, to which they are attached, upon its support.

More especially, the invention resides in the particular construction of the hub-support, and in the specific devices employed for retaining said support in adjusted position with respect to the standard against which it is disposed.

Briefly described, these devices are in the form of a longitudinally-arranged series of staples which are set laterally into the standard and are adapted to be interchangeably engaged by the hooked upper end of a metal strap which forms the body of the support and carries a lateral pin having its inner end arranged to fit interchangeably in a series of openings formed in the standard, such arrangement tending to brace the pin.

The preferred embodiment of the invention is illustrated in the accompanying drawings in which corresponding parts are designated by the same reference numerals throughout the several views.

Of the said drawings, Figure 1 is a side elevation of the complete machine. Fig. 2 is a front elevation thereof. Fig. 3 is an enlarged fragmental section taken on the line 3—3 of Fig. 2. Fig. 4 is an enlarged detail view of the hub-support. Fig. 5 is a similar view of the lever. Fig. 6 is an enlarged fragmental detail view, partly in section, illustrating the mounting of the pinion carried by the feed shaft. In Figs. 1 and 2, a portion of the wheel is shown in dotted lines.

In the drawings, 1 designates the standard and which carries the drive shaft 2 and the feed or tool-carrying shaft 3. The first

mentioned shaft extends through a horizontal opening formed in the standard at the proper height and is journaled in bearings mounted upon a pair of blocks 4 and 5, disposed respectively against the rear and front faces of the standard. This shaft carries at its rear end a belt wheel 6 connected by a belt of any preferred source of power (not shown) and at its front end a pinion 7 which meshes with a similar pinion 8 carried by the feed shaft. The latter shaft which is journaled in bearings carried by the block 5 and by a second block 9 secured to the standard above and in spaced relation to the said block 5, is formed toward its lower end with a longitudinal key-seat 10 into which extends a key 11 provided upon the wall of the bore of the hub 12 of the pinion 8. This hub rests upon the upper wall of a shoulder 13 formed by cutting away a portion of the upper right hand corner of the block 5, owing to which construction, the pinion 8 will be held against movement, while the feed shaft is free to have an endwise movement therethrough. At its extreme lower end, the feed shaft is provided with an enlarged head 14 in which is formed a socket for the reception of the cutting tool (not shown), the tool being retained in place in said socket by means of a set screw 14', whose stem works through an opening formed in said head.

Below the block 5 the standard is provided with a series of laterally-projecting staples 15, whose legs extend through openings formed in the standard and are provided at their outer ends with nuts 16 which are arranged to be tightened against the adjacent face of the standard, thus preventing withdrawal of the staples. These staples which are arranged in spaced parallel relation are adapted to be engaged interchangeably by the hooked upper end 17 of a metal strap 18, which, as originally stated, forms the body of the wheel support, said strap carrying at its lower end a rectangular collar 19, which fits loosely around the standard. Adjacent said collar, the strap carries a lateral pin 20, which extends through an opening formed therein and has its rear portion arranged to fit interchangeably in any one of a series of horizontal openings 22 formed in the standard. The formation of these openings tends to materially brace the pin, as will be apparent, whereas if said pin were carried solely by



the strap, the weight of the wheel would be sufficient to weaken the joint between the pin and strap, it being understood that the projecting forward portion of the pin is arranged to extend through the bore of the wheel hub. The collar 19 provided upon the strap serves to connect the latter to the standard and at the same time, to properly position the said strap with reference to the staples.

The feed shaft 3 is normally forced downward by the weight of a balance wheel 23 secured to its upper end, such movement being limited by the contact of the enlarged tool-carrying head 14 against the upper end of the spoke. After the tenoning or pointing of the spoke has been completed, the feed shaft is raised upwardly by means of a lever 24. This lever has its inner end forked, so as to straddle the pinion 8 and the feed shaft, the legs 25 of the forked portion being pivoted at their free ends to the block 5, across the opposite side faces of which they extend. The connection between the lever and the feed shaft is effected by means of a pair of converging upwardly extending straps 26, whose lower ends are pivoted to the legs 25 and whose upper ends are pivoted to a collar 27 loosely mounted upon the shaft, which latter is provided with a pair of collars 28 which are rigidly secured thereto and are located above and below the collar 27.

While the operation of the machine, as a whole, will be apparent from the foregoing, it is to be noted, however, that the particular form of wheel support provided, permits the machine to operate with equal facility upon the spokes of wheels of various sizes, it being necessary only to withdraw the pin 20 from the opening 22, engage the hook end of the strap with the proper staple, and then reinsert the pin. Furthermore, no adjustment of the feed shaft is necessary, nor is it necessary to feed the latter downwardly during the continuance of the cutting, since the weight of the wheel 23 will effect such movement. At the termination of the cutting operation, the shaft may be raised by means of the lever, the wheel then rotated upon the pin 20 to bring the succeeding spoke into position in line with the shaft, and the lever then released. Finally, it may be stated that the employment of an upright standard permits the operator of the machine to work without bending over or stooping, as is the case where the machine, as a whole, is mounted upon a horizontal bed.

What is claimed is:

1. In a machine for tenoning and pointing wheel spokes, the combination with a vertical beam and a tool shaft supported vertically by said beam, of a vertically adjustable work support adapted to vertically and rotatably support a wheel, said support

comprising a series of independent retaining devices carried by the beam, a strap having a hooked end arranged for interchangeable engagement with said devices and spaced away from said beam, and a work engaging member adapted to engage said beam and said strap, whereby the work engaging member is supported at spaced points in its length.

2. In a machine for tenoning and pointing wheel spokes, the combination of a vertical beam, a longitudinally arranged series of independent retaining devices carried by the beam, a strap slidable along said beam having a hooked end arranged for interchangeable engagement with said devices and spaced away from said beam, and a lateral pin carried by the beam and strap so that it will be supported by said beam and strap at spaced points in its length.

3. In a machine for tenoning and pointing wheel spokes, the combination of a vertical beam, a longitudinally arranged series of independent retaining staples set into the beam, a member slidable along the beam and having one end thereof arranged for interchangeable engagement with said devices, and a work engaging member carried by the beam and the slidable member so that it will be supported by said beam and said member at spaced points in its length.

4. In a machine for tenoning and pointing wheel spokes, the combination of a vertical beam, a longitudinally arranged series of retaining devices carried by the beam, a work support slidable along the beam and comprising a member having one end thereof arranged for interchangeable engagement with said devices and the other end provided with a collar embracing the beam and adapted to be spaced away from said beam when positioned, and a work engaging member supported by said member and beam at spaced points in its length.

5. In a machine for tenoning and pointing wheel spokes, the combination of a vertical beam provided with an alining series of retaining devices and spaced openings, a member having one end thereof arranged for interchangeable engagement with said devices and spaced away from said beam when positioned and formed adjacent its outer end with an opening, and a pin arranged for insertion through the opening therein and through the adjacent opening in the beam, whereby the pin is supported by the beam and member at spaced points in its length.

In testimony whereof, I affix my signature, in presence of two witnesses.

FREDERICK C. MILLER.

Witnesses:

HERMAN MILLER,  
W. P. KURC.