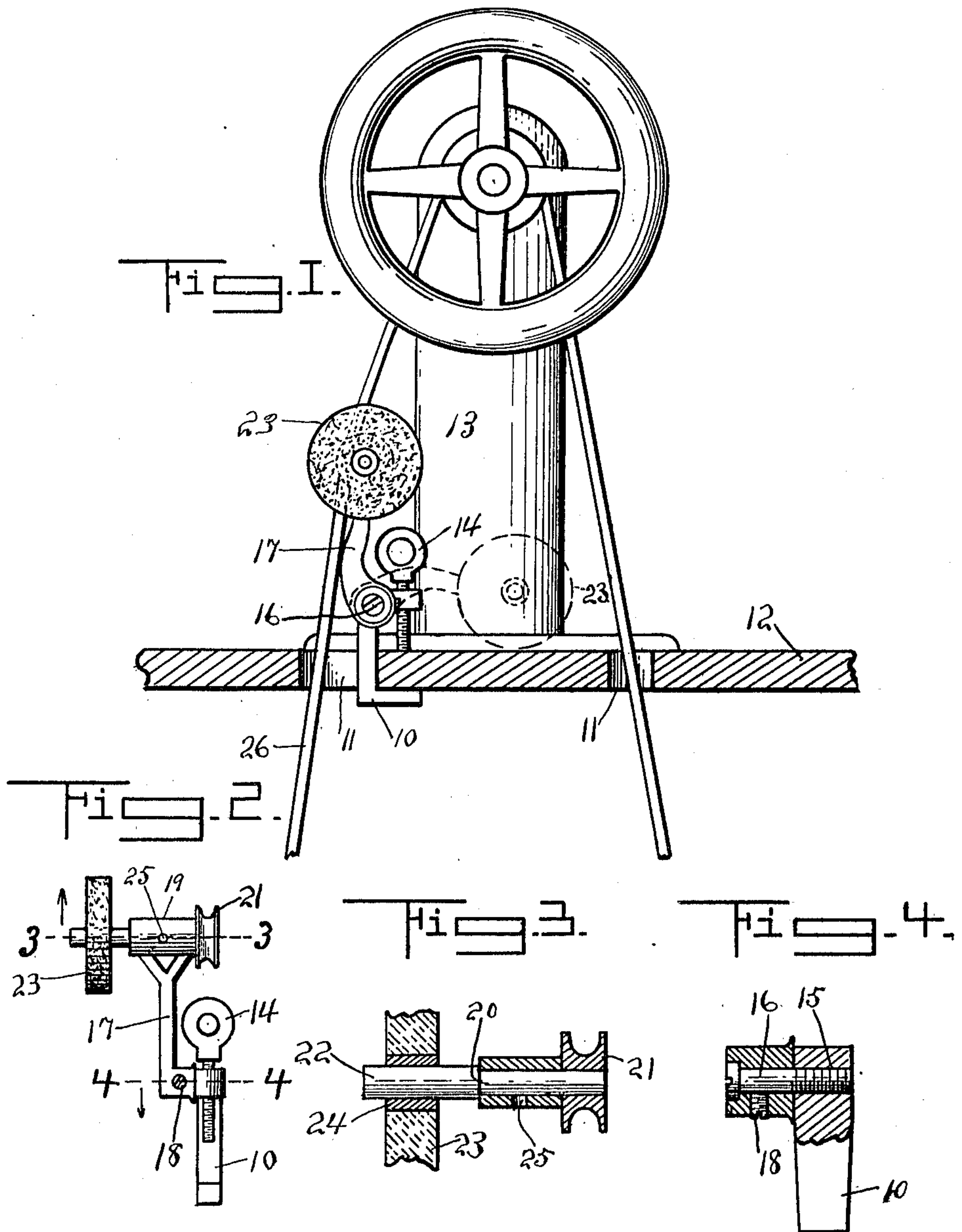


I. P. NICHOLS.
GRINDING DEVICE.
APPLICATION FILED MAR. 4, 1911.

992,037.

Patented May 9, 1911.



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UNITED STATES PATENT OFFICE.

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GRINDING DEVICE.

992,037.

Specification of Letters Patent.

Patented May 9, 1911.

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To all whom it may concern:

Be it known that I, IDA PRESTON NICHOLS, a citizen of the United States, and residing at Ithaca, in the county of Tompkins and State of New York, have invented certain new and useful Improvements in Grinding Devices, of which the following is a specification.

This invention relates to improvements in grinding devices and more especially to such devices which are in the nature of an attachment for use with a sewing machine or other mechanism in which a driving belt is employed.

The primary object of the invention is the provision of a grinding or burnishing wheel so secured to a belt or pulley wheel that the placing of the latter in contact with the belt of the machine carrying the attachment will cause a turning of the grinding wheel.

A further object of the invention is the providing of the grinding and pulley wheels upon an arm pivoted to a clamp for securing the attachment to a support and allowing the device to be folded to an inoperative position.

While the invention herein shown and described is more particularly applicable to sewing machines, it will be evident that the same may be used as an attachment with any device upon which the belt pulley of the attachment is applicable.

With these general objects in view and others that will appear as the nature of the invention is better understood, the same consists in the novel combination, position and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the appended claim.

In the drawings forming a part of this application and in which like designating numerals refer to corresponding parts throughout the several views; Figure 1 is an end view of a portion of a sewing machine showing the present device attached thereto. Fig. 2 is a front view of the attachment. Fig. 3 is a transverse sectional view taken upon line 3—3 of Fig. 2, and, Fig. 4 is a transverse sectional view taken upon line 4—4 of Fig. 2.

Referring more in detail to the drawings, the U-shaped clamp member 10 is illustrated as secured within one of the other belt perforations 11 of the bed plate 12 which latter forms the support for the sewing machine

13, said clamp being provided with the usual gripping screw 14.

Positioned at one corner is a screw-threaded opening 15 within which is placed the bolt 16 forming a pivot for the arm 17 through which said bolt extends, while a set screw 18 carried by the arm is adapted to engage the said bolt and hold the arm in any desired adjusted position. The arm 17 having a terminal sleeve or journal 19 receives the bearing shaft 20 therein at the reduced portion thereof while at the termination of said portion there is provided a small pulley wheel 21. The opposite and enlarged portion 22 of the shaft is provided with a grinding or polishing wheel 23 having a slightly tapered central bushing 24 and by which said wheel is frictionally secured upon the shaft. It is evident from this structure that the pivoted arm 17 may be turned at any desired angle with respect to the securing clamp and retained in such a position by the set screw 18 combined with the bolt 16. A perforation 25 is provided through the sleeve 19 for the purpose of lubricating the bearing.

The complete operation of the device will be apparent from the above description.

With the attachment securely clamped upon the bed plate of the sewing machine as shown in Fig. 1, the arm 17 normally assuming the position illustrated by dotted lines therein may be easily swung upwardly until the pulley wheel 21 is brought into contact with the belt 26 of the machine, whereupon the set screw is tightened upon the bolt for retaining the device in such an operative position. The running of the sewing machine at such a time with either the needle clutch therein or out of action, will result in a turning of the burnishing wheel 23 in a direction desired for grinding or sharpening any implements held there-against.

It will further be apparent that while the placing of the elements above described in the manner herein shown is believed to be the most advantageous arrangement, the same may be slightly varied if desired by placing the clamp at the opposite side of the perforation herein illustrated or even within the other perforation of the bed plate.

The principal use for the present invention as attached to sewing machines is the grinding of cutting implements such as

scissors, shears and knives and also the sharpening of needles and the burnishing of tarnished metal while the grinding wheel may be readily replaced by a smoothing or buffet wheel when desired and likewise my attachment is designed for use with other belt driven machines than a sewing machine herein illustrated.

It is also to be understood that changes may be made in the matter of design, proportion and details of construction without departing from the spirit and scope of the invention as set forth in the accompanying claim.

Having thus fully described my invention and in what manner the same is designed for use, what I claim as new and desire to

secure by Letters Patent of the United States is:

A device of the class described comprising a clamping member adapted to seat within the belt perforation of the bed plate of a sewing machine, an arm pivoted to said clamp, a grinding and a pulley wheel journaled in said arm and capable of adjustment with said pulley wheel either in or out of contact with the belt of the sewing machine.

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

IDA PRESTON NICHOLS.

Witnesses:

WM. HAZLITT SMITH,
JOSEPHINE T. UTTER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
