

No. 652,339.

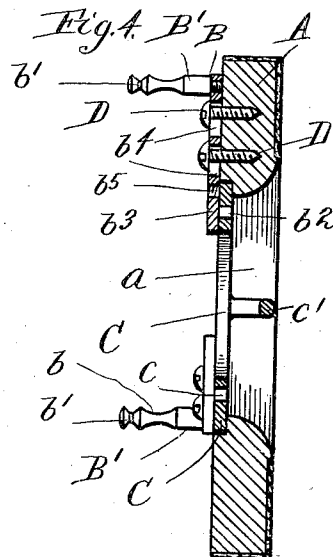
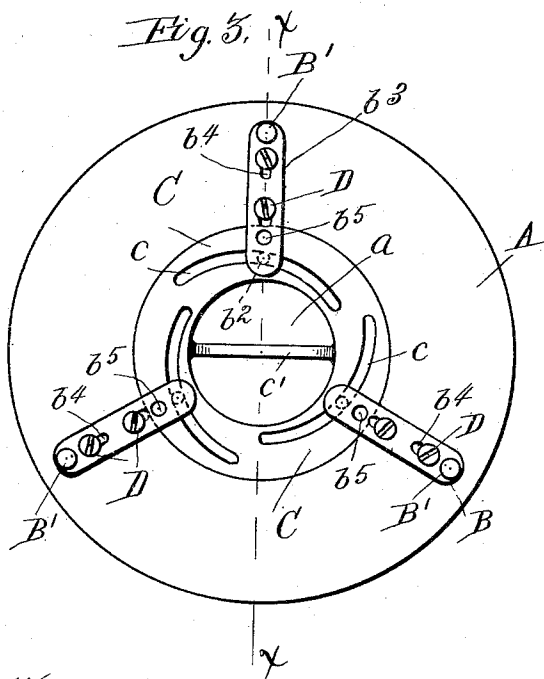
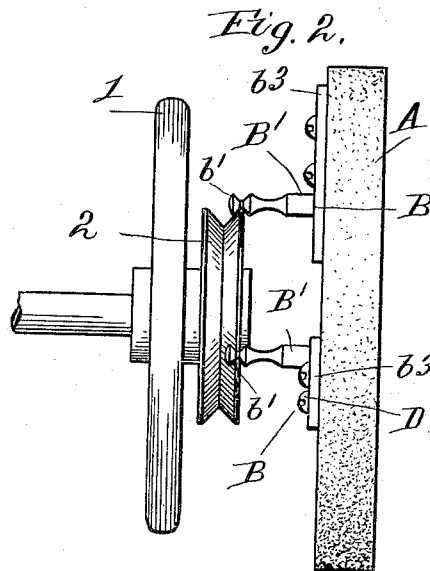
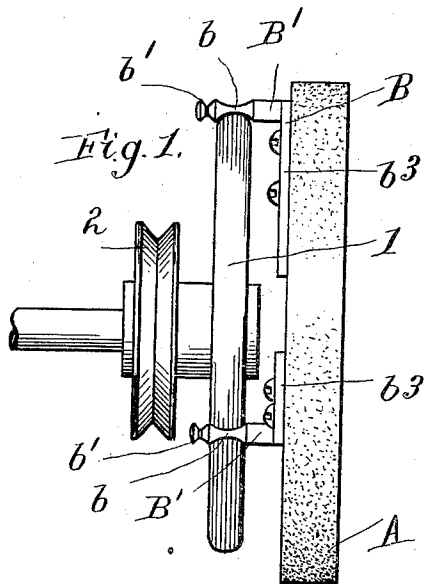
Patented June 26, 1900.

H. A. TRENHOLM.

GRINDING AND POLISHING ATTACHMENT FOR SEWING MACHINES.

(Application filed Oct. 27, 1898.)

(No Model.)



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UNITED STATES PATENT OFFICE.

HARRY A. TRENHOLM, OF CHICAGO, ILLINOIS.

GRINDING AND POLISHING ATTACHMENT FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 652,339, dated June 26, 1900.

Application filed October 27, 1899. Serial No. 734,910. (No model.)

To all whom it may concern:

Be it known that I, HARRY A. TRENHOLM, residing at Chicago, county of Cook, State of Illinois, have invented a certain new and useful Improvement in Grinding and Polishing Attachments for Sewing-Machines, of which the following is a specification.

My invention contemplates a grinding and polishing wheel which can be readily clamped upon either the fly-wheel or the pulley-wheel of an ordinary sewing-machine. To such end the grinding and polishing wheel can be provided with a plurality of adjustable and laterally extending jaws, which are adapted to engage the periphery of either the fly-wheel or pulley-wheel and which are preferably connected for simultaneous adjustment in directions radial or substantially radial to the axis of the wheel. Any suitable device may be employed for shifting or adjusting the jaws; but as a matter of further improvement and with a view to simplifying the operation of attaching the wheel to a sewing-machine I provide a centrally-arranged cam-plate, with which the jaws are suitably connected and which is rotatable for the purpose of opening and closing the latter. With this arrangement the device can be quickly attached and detached, and in each case the adjustment of the jaws is effected without the use of tools. The wheel can be provided with an emery periphery, and its sides can be provided with concentric strips or circles of felt and emery or any other suitable grinding and polishing substances. A grinding and polishing attachment thus constructed is simple and inexpensive and affords an effective arrangement by which a sewing-machine can be employed for sharpening knives and scissors and for performing various other operations of a like nature.

In the accompanying drawings, Figure 1 is a view illustrating the manner in which a grinding and polishing attachment constructed in accordance with my invention can be clamped upon the fly-wheel of an ordinary sewing-machine. Fig. 2 illustrates the attachment clamped upon the pulley-wheel of a sewing-machine. Fig. 3 is a view of the inner side of the attachment, showing the clamp-

ing-jaws and the rotatable cam-plate by which they are operated. Fig. 4 is a section on line *x x* in Fig. 3.

The grinding and polishing attachment thus illustrated comprises a wheel or annular disk A, having, preferably, a central opening *a*. The said wheel can be provided with a periphery composed of coarse emery or the like, and its outer face may be provided with concentric strips or rings of fine emery and felt. The emery portions of the wheel afford suitable abrading-surfaces for sharpening knives and scissors. The felt is employed for polishing various substances or articles.

As a simple and effective arrangement I provide the grinding and polishing wheel with a plurality of clamping-jaws B, which project laterally from the inner surface of the wheel and which are adapted to engage the periphery of either the fly-wheel or pulley-wheel. These jaws are therefore preferably provided with portions *b*, adapted to engage the periphery of the fly-wheel 1, and also with end portions *b'*, adapted to engage the periphery of the pulley-wheel 2. (See Figs. 1 and 2.) The said jaws are preferably adjustable in directions which are radial or substantially radial to the axis of rotation. The means by which the jaws are opened and closed—or, in other words, adjusted—consists of a cam-plate C, having cam-grooves *c*, which are engaged by the studs or small projections *b²* on the jaws. Each jaw is slidably secured to the inner face or side of the abrading-wheel, preferably by means of screws D, and these flat portions *b³* of the jaws are provided with slots *b⁴*, through which the said screws extend and which permit the jaws to have the aforesaid radial adjustment. The said cam-plate C is rotatable, being provided with a key or thumb-piece *c'*, and a rotation of the cam-plate is obviously accompanied by an opening or closing of the jaws, according to the direction in which the plate is rotated.

Thus constructed, the grinding and polishing wheel can be quickly attached to the fly-wheel of an ordinary sewing-machine, substantially as shown in Fig. 1. It is not always the case, however, that the pulley-wheel 2 is arranged inside of the fly-wheel, for in cer-

tain makes or constructions of sewing-machine the pulley-wheel is arranged outside, as shown in Fig. 2. In such case—that is to say, where the pulley-wheel is arranged outside of the fly-wheel—it becomes desirable to clamp the attachment to the former, which is usually of smaller diameter than the latter. For this reason I provide the portions b^3 of the jaws with threaded holes b^5 , which are adapted to receive the threaded ends of the studs or pins B' , which form the jaws proper. These threaded holes b^5 occupy positions relatively nearer the center of the wheel, and by shifting the studs B' to such points the clamping device becomes capable of engaging the periphery of the pulley-wheel 2. It will be seen, therefore, that I provide an exceedingly simple and inexpensive grinding and polishing attachment for sewing-machines, that the same can be instantly attached or detached without employing tools, and, furthermore, that the attachment is applicable to both styles of sewing-machine—that is to say, to machines regardless of whether the pulley-wheel is arranged outside or inside of the fly-wheel. It is obvious, however, that the clamping means shown are susceptible of modification, and for this reason I do not limit myself to the exact construction shown and described.

What I claim as my invention is—

1. A grinding and polishing attachment for sewing-machines, comprising an abrading wheel or disk provided with a plurality of clamping-jaws which are adapted to engage the periphery of a wheel on the rotary shaft of said sewing-machine, and means for simultaneously opening and closing said jaws for the purpose of causing them to either grip or release the periphery of said wheel.

2. The combination of an abrading wheel or disk having a plurality of laterally-extending and radially-adjustable jaws adapted to engage the periphery of an annular object on the rotary shaft of a sewing-machine, a rotatable cam-plate having suitable connections with the jaws, and means for rotating said cam-plate for the purpose of opening and closing said jaws.

3. A grinding and polishing attachment for sewing-machines, comprising a wheel or disk provided with a plurality of laterally-extending jaws, a cam-plate having cam-grooves which are engaged by studs or projections on said jaws, and means for rotating said cam-

plate for the purpose of opening and closing said jaws.

4. In a device of this character, the combination of the grinding wheel or disk, the radially-adjustable and laterally-extending jaws secured to the inner face of said wheel, screws for securing said jaws to said wheel, said screws extending through radial slots in said jaws, a rotary cam-plate having cam-grooves which are engaged by studs or projections on said jaws, and a key for rotating said cam-plate.

5. A grinding and polishing attachment for sewing-machines, comprising a wheel or disk having suitable grinding and polishing surfaces, a plurality of laterally-extending and radially-adjustable jaws which are slidably mounted upon the inner face of said wheel and which are adapted to engage the fly-wheel of a sewing-machine, a rotatable cam-plate having suitable connection with said jaws, and means for rotating said plate for the purpose of simultaneously adjusting said jaws.

6. A grinding and polishing attachment for sewing-machines, comprising a wheel or disk having suitable abrading-surfaces, a plurality of laterally-extending and radially-adjustable jaws which are slidably mounted upon said wheel or disk and which are adapted to engage the pulley-wheel of a sewing-machine, a rotatable cam-plate having suitable connection with said jaws, and means for rotating said plate for the purpose of opening and closing said jaws.

7. An attachment for sewing-machines, comprising a suitable abrading-wheel, a plurality of clamping-jaws which are slidably mounted upon said wheel and which are adapted to grip or engage an annular object on the rotary shaft of a sewing-machine, a cam-plate rotatably mounted upon said abrading-wheel and having suitable connection with said adjustable clamping-jaws, and means for rotating said plate for the purpose of opening and closing said jaws.

8. The combination of the abrading-wheel, the radially-adjustable jaws, the rotatable cam-plate C having cam-grooves c which are engaged by studs or projections on said jaws, and means for rotating said plate, substantially as and for the purpose set forth.

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