

(No Model.)

J. S. PYPER.

GRINDING ATTACHMENT FOR SEWING MACHINES.

No. 432,898.

Patented July 22, 1890.

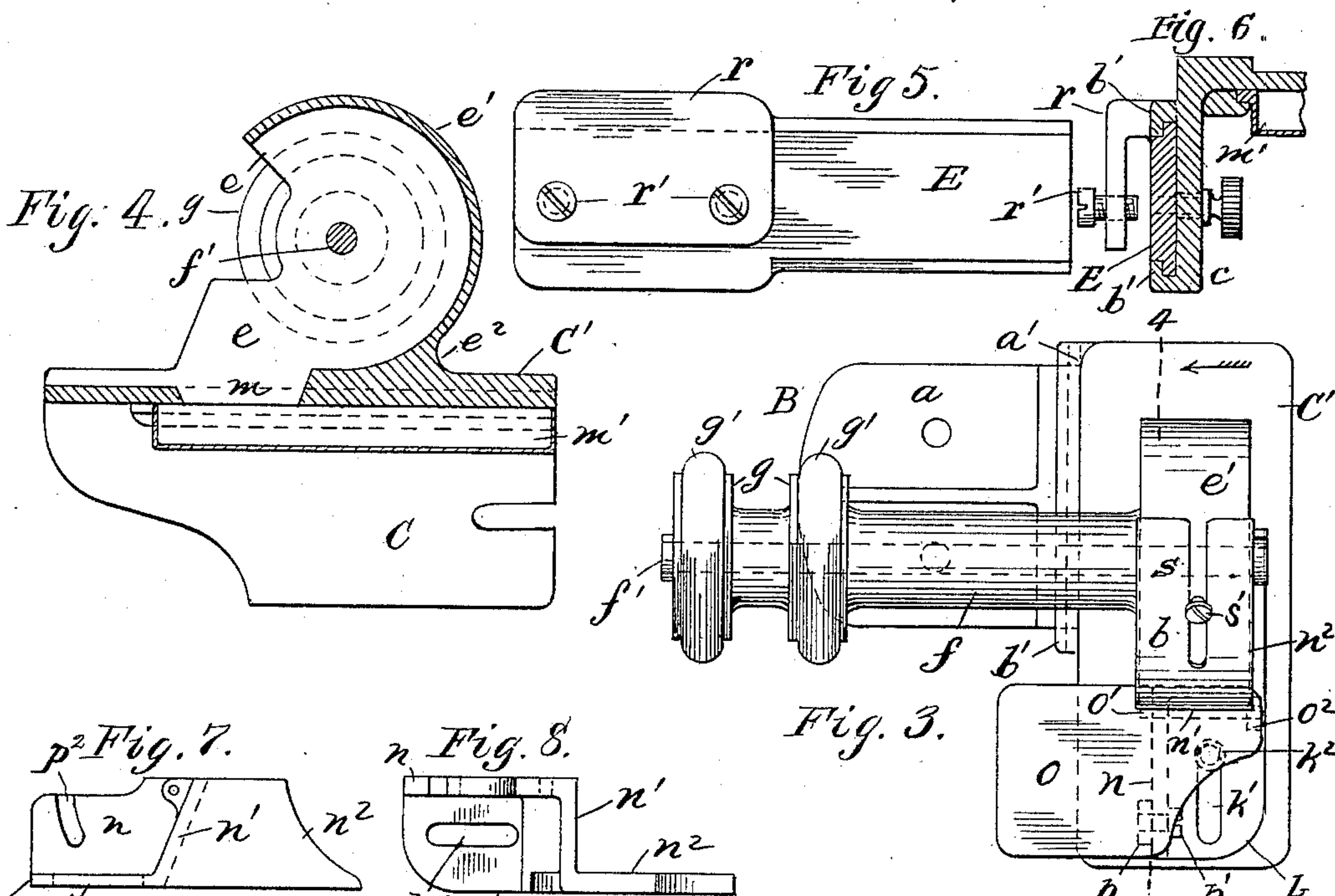
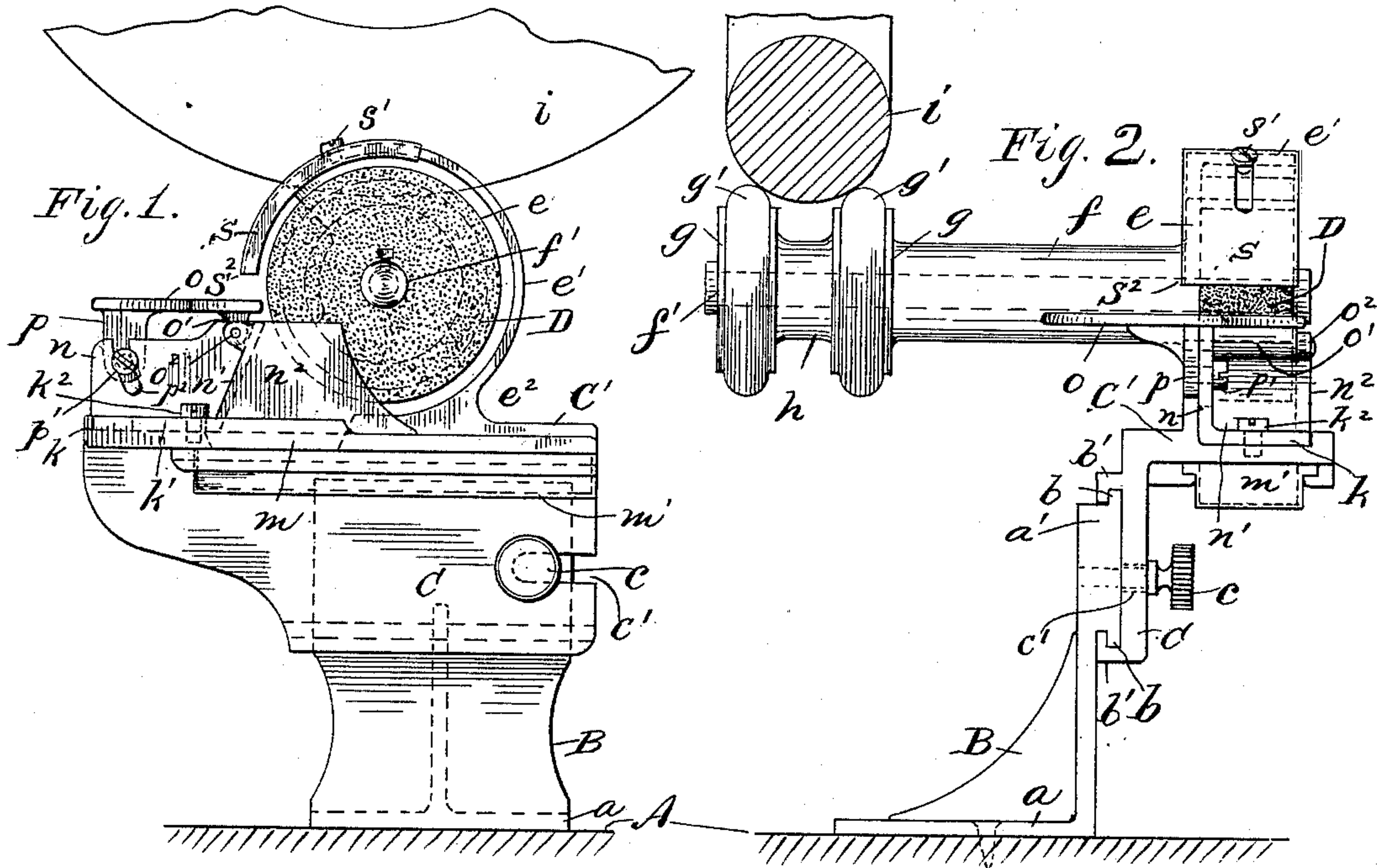


Fig. 7. Fig. 8.

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## GRINDING ATTACHMENT FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 432,898, dated July 22, 1890.

Application filed February 5, 1890. Serial No. 339,296. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN S. PYPER, of Au Sable Chasm, in the county of Clinton and State of New York, have invented a new and useful Improved Grinding Attachment for Sewing-Machines, of which the following is a full, clear, and exact description.

This invention relates to an improved device for grinding scissors, needles, and other similar light articles, the objects being to provide a small, shapely, and convenient implement which may be readily attached to a sewing-machine and receive motion and power therefrom, whereby scissors and sewing-machine needles may be sharpened with dispatch by the user of the sewing-machine.

To these ends my invention consists in certain features of construction and combinations of parts, as is hereinafter described, and indicated in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all of the figures.

Figure 1 is a side elevation of the grinding attachment secured on the table of a sewing-machine having engagement with the lower surface of the balance-wheel rim. Fig. 2 is a front elevation of the device in engagement with a sewing-machine balance-wheel, said wheel being in section. Fig. 3 is a top plan view of the grinding attachment. Fig. 4 is a side elevation, in section, of the sliding main frame of the device, taken on the line 4 4 in Fig. 3. Fig. 5 is a side view of a bracket-arm, which affords means to support the grinding device upon the wheel-guard plate of a sewing-machine. Fig. 6 is a transverse section of the bracket-arm shown in Fig. 5 and a portion of the sliding frame of the grinding device mounted thereon, and Figs. 7 and 8 are respectively side and plan views of a grinding-wheel dust-guard and rest-plate support.

The grinding attachment is designed to be secured on the sewing-machine table, or where there is a hand or balance wheel guard-plate provided. The device may be clamped on this guard-plate. (Not shown.) When the device is secured on the machine-table A, a bracket-stand B is provided. This is in right-angle

form, the base-plate *a* of the same being perforated for insertion of screws through and into the table whereon it is located.

The upright integral flange of the bracket-stand B has the horizontal guide-plate *a'* formed on its upper portion, which plate overhangs the outer vertical face of the stand B, so that its ledges *b* may be loosely interlocked with the hooked flanges *b'* on the sliding bed-plate C, whereon the grinding mechanism is mounted and adapted to slide, an integral platen *C'*, formed on said bed-plate, being provided for this purpose.

The bed-plate C is adjustably secured to the guide-plate *a'* by a set-screw bolt *c*, the threaded end of which engages a tapped hole in the guide-plate that aligns with the open slot *c'*, formed at the rear vertical edge of the plate C, the adjustment of the same on the guide-plate being provided to change the relative position of parts on it with regard to the rim of a sewing-machine balance-wheel *i*, for a purpose hereinafter explained.

Upon the sliding bed-plate C a wheel-case is erected, said case consisting of a flange *e*, which has its circular edge bounded by a laterally-projecting rim *e'*, which at *e<sup>2</sup>* is connected with the platen *C'*, an opening being afforded at the opposite or front side of the case-rim *e'*. From the outer face of the upright flange *e*, on which the circular rim *e'* is formed, a central integral sleeve *f* is projected horizontally, the bore of which is true and at right angles to the face of the flange *e*, whereby it is adapted to afford revoluble support to a shaft *f'*, on the projecting ends of which the grinding-wheel D and friction-wheels *g* are placed and secured.

The wheel D may be made of grindstone, or a compound wheel of emery and other materials may be employed for the purpose, said wheel being secured on the end portion of the shaft *f'*, within the wheel-case, by any suitable means. On the other projecting end of the shaft *f'* the duplicate friction-wheels *g* are affixed, as before mentioned, these being integral radial enlargements on a hub *h*, properly spaced apart, having their diameters equal and their peripheral edges grooved for reception of elastic bands *g'*, whereby they are enabled to forcibly engage the peripheral



surface of a balance-wheel rim  $i$ , and from its revoluble movement be rapidly revolved in a proper direction along with the wheel D.

The adjustment of the friction-wheels  $g$  can be regulated to increase or diminish the friction of contact with the rim  $i$  by a horizontal movement of the bed-plate C, previously mentioned.

Upon the upper surface of the platen C' parallel guide-ribs are produced, between which a dust-guard and rest-plate support  $k$  is adjustably located, said plate being slotted of a proper length longitudinally as at  $k'$ , to permit the frame to be moved toward or from the wheel-face, and secured at any desired point by a screw-bolt  $k^2$ .

The platen C' is apertured at  $m$  below the forward face of the grinding-wheel D for escape of dust therefrom into a drawer  $m'$ , which is supported to slide into position below the platen or be withdrawn when necessary to empty it of dust accumulation.

On the piece  $k$  there is a guard-wall  $n'$  erected a proper height, which extends from the upright longitudinal bracket-flange  $n$  across the face of the grinding-wheel, and a right-angle extension  $n^2$  of the same extends toward the center of the grinding-wheel D, thereby providing a dust-guard for conveying the escaping products of attrition effected by the wheel D into the drawer  $m'$ . The flange  $n$  serves as a bracket-support for the rest or rocking table  $o$ , whereon the scissor-blades are supported and brought into contact with the revolving face of the wheel D.

The table  $o$  is provided with a depending elongated transverse knuckle-rib  $o'$ , which is longitudinally perforated. Said rib, being formed below the edge of the table nearest to the wheel-face, is in proper position for engagement of a pivot-bolt, which is inserted first through the perforated ear  $o^2$  and then through the rib  $o'$ , thence into a perforation in the bracket-flange  $n$ , wherein it is secured, thus affording a hinged support for the table at its inner edge.

A depending bracket-arm  $p$  is formed on the under side of the table  $o$ , having one face in sliding contact with the bracket-flange  $n$ , to which it is adjustably attached by a bolt  $p'$ , that is adapted to slide in the curved slot  $p^2$ , formed in the upper edge of the flange  $n$ , when said bolt is released from forcible contact of its head with said flange, the body of the bolt having threaded engagement with a threaded hole formed in the bracket-arm  $p$  at a proper point.

It will be seen from the foregoing description that the table  $o$  may be given any desired degree of inclination from a horizontal plane, so that scissor-blades may have their edges properly beveled when supported on the table, which has previously been adjusted, and be brought into contact with the moving face of the grinding-wheel D.

As there is one side of the grinding-wheel fully exposed, this may be utilized to point

needles which have been accidentally blunted, these being held between the thumb and fingers and revolved thereon, while the point is made to bear lightly against the rotating side surface of the wheel D.

Where the sewing-machine is provided with a balance-wheel guard of ordinary form, it being a thin flange erected near the face of the wheel to prevent the belt from being accidentally displaced or touched by the operator, there is a bracket-arm E provided, which is shown in Figs. 5 and 6. This consists of a metallic elongated plate having the parallel flange  $r$ , formed on the top edge of the plate and extending toward the opposite edge, a proper space intervening for the introduction of the sewing-machine guard-flange (not shown) therein, to which the bracket-arm is secured by set-screws  $r'$ . The arm being horizontal is formed on its edges to receive the hooked flanges  $b'$  of the bed-plate C, thus affording support to the device in a proper position for the frictional engagement of the friction-wheels  $g$  with the balance-wheel rim when the entire machine is pressed toward said wheel and slides on the arm E.

To prevent an improper contact of the hands of the operator with the rapidly revolving grinding-wheel D, an adjustable guard-plate  $s$  is secured upon the outer curved surface of the case-rim  $e'$ , to which it conforms in shape, said guard-plate being slotted from its rear edge forwardly a proper distance to receive the body of the set-screw  $s'$ , which has threaded engagement with the wheel-rim, so that by its adjustment the guard-plate may be located with its forward edge  $s^2$  at a correct distance above the table  $o$  to permit the introduction of the scissor-blades below it and prevent accident to the operator.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A grinding attachment for sewing-machines, comprising a bracket constructed to be secured to a sewing-machine, a bed-plate adjustably mounted on the bracket, a wheel-case having one end open and provided with an opening in the front side of its rim and with a horizontally-projecting sleeve, a shaft journaled in the sleeve, a grinding-wheel on one end of the shaft within the case, friction-wheels on the other end of the shaft and adapted to engage the balance-wheel of the sewing-machine, an adjustable dust-guard on the bed-plate, and an adjustable table on the dust-guard, substantially as described.

2. The combination, with a bed-plate provided with an opening  $m$ , a wheel-case carried by the bed-plate and having an open end and an opening in the front side of its rim, and a grinding-wheel mounted in the case, of a dust-guard adjustably secured upon the bed-plate and extending toward the center of the wheel at one side thereof, substantially as described.

3. The combination, with a bed-plate hav-



ing the opening *m*, the wheel-case carried by the bed-plate and having an open end and an opening in the front of its rim, and the grinding-wheel mounted in the case, of a dust-guard adjustably mounted on the bed-plate and extending toward the center of the wheel at one side thereof, and a drawer on the under side of the bed-plate below the opening *m*, substantially as herein shown and described.

4. The combination, with a bed-plate, a wheel-case carried thereby, and a grinding-wheel mounted in the case, of an adjustable dust-guard on the bed-plate and a hinged and adjustable table carried by the dust-guard, substantially as herein shown and described.

5. In a grinding attachment for sewing-machines, the combination, with a bed-plate provided with a wheel-case and an opening *m*, of the plate *k*, adjustably secured to the bed-plate and provided with the guard-wall *n'*, the bracket-flange *n*, having the curved slot *p*<sup>2</sup> and the right-angle extension *n*<sup>2</sup>, and the

table *o*, pivoted at its inner end to the bracket, flange and provided at its outer end with the depending arm *p* and locking-bolt *p'*, substantially as herein shown and described.

6. The combination, with a bracket-stand, a sliding bed-plate having an apertured platen integral therewith, a bracket-flange and attached dust-guard adjustable on the platen and over the dust-aperture therein, and a pivoted table which is adjustable to rock from a horizontal plane, of a wheel-case having a sleeve-box thereon, a grinding-wheel shaft therein, a grinding-wheel within the wheel-case, two friction-wheels on the wheel-shaft end outside of the sleeve-box, a guard-plate on the wheel-case, and a dust-receiving drawer supported to slide below the platen of the bed-plate, substantially as set forth.

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Witnesses:

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