(No Model.)

# F. VISSCHER.

## AUTOMATIC SCISSORS GRINDER.

No. 442,788. Patented Dec. 16. 1890.

Fig. 1.

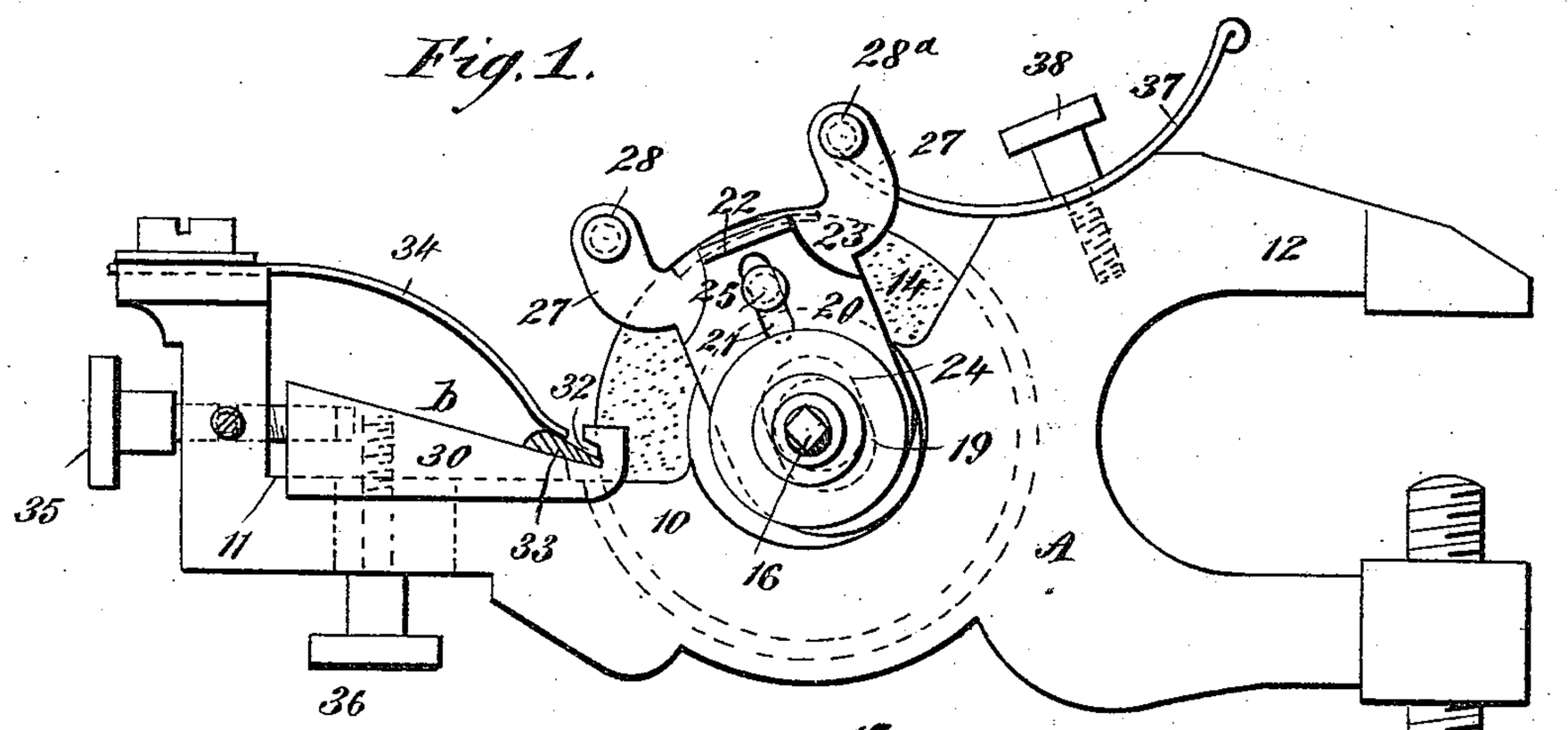



Fig. 2.

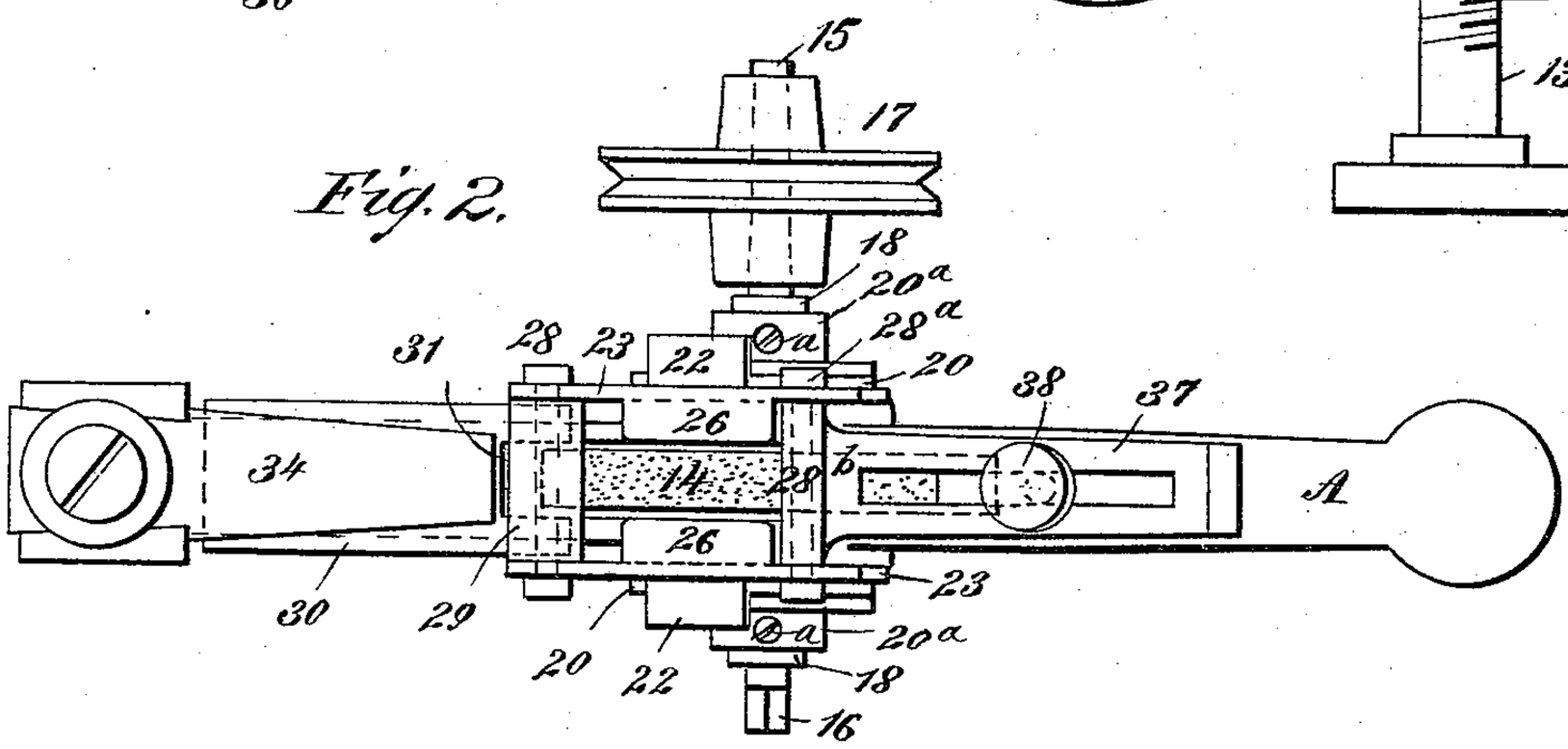
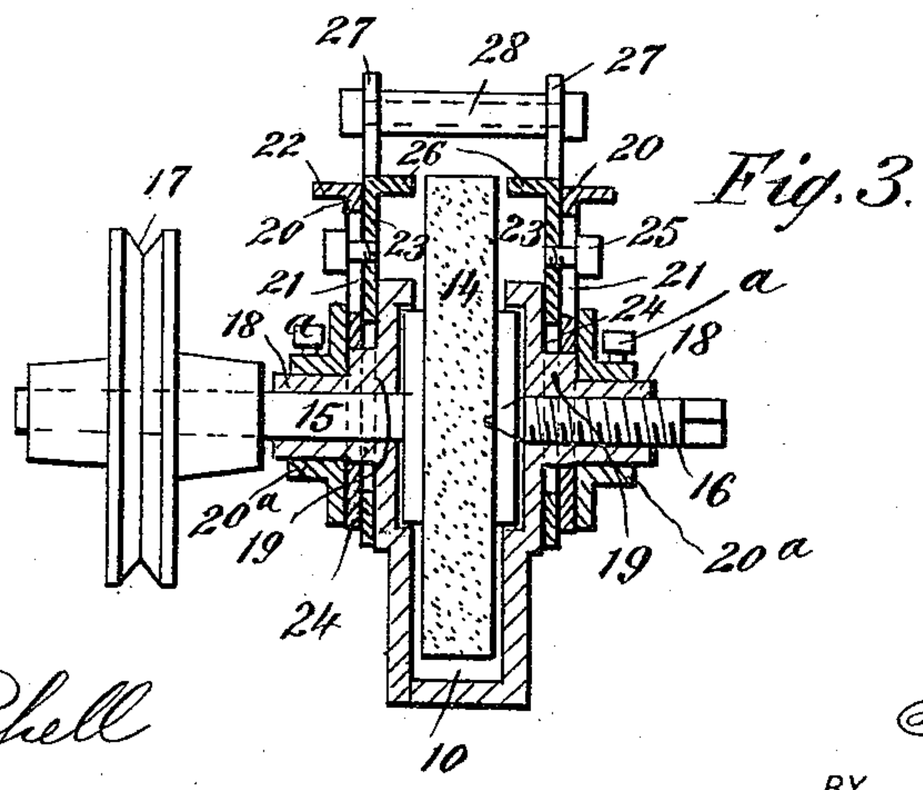



Fig. 3.

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# UNITED STATES PATENT OFFICE.

FREDERICK VISSCHER, OF MONTGOMERY, ALABAMA, ASSIGNOR TO HIMSELF AND FREDERICK F. VISSCHER, OF SAME PLACE.

## AUTOMATIC SCISSORS-GRINDER.

SPECIFICATION forming part of Letters Patent No. 442,788, dated December 16, 1890.

Application filed April 29, 1890. Serial No. 349,927. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK VISSCHER, of Montgomery, in the county of Montgomery and State of Alabama, have invented a new and useful Improvement in Scissors-Grinders, of which the following is a full, clear, and exact description.

My invention relates to an improved scissors-grinder, and has for its object to provide a neat, compact, and durable device capable of attachment to a sewing-machine or other table or support, but preferably the table of a sewing-machine, and to so construct the device that the edges of the scissors-blades may be effectively and expeditiously ground, and wherein the contacting surfaces of the blades may be hollow-ground and the cutting-edge of said blades be prevented from contacting with the grinding-wheel during the latter operation.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

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

Figure 1 is a side elevation of the device. Fig. 2 is a plan view thereof, and Fig. 3 is a central vertical section.

The body A of the device is constructed, preferably, of metal and provided with a central circular vertical pocket 10, which pocket is open at the top and at one side, as illustrated in Fig. 1. The end of the body A opposite the open side of the pocket is flat upon its upper face, as illustrated at 11 in Fig. 1, and the extremity of this end section is carried vertically upward at a right angle to the body, giving it thereby an angular or essentially L shape. The opposite end of the body is formed to the contour of an essentially U-shaped clamp 12, the lower member whereof is provided with the usual set-screw 13.

In the pocket 10 an emery-wheel 14 is held to revolve, mounted rigidly upon a shaft 15, journaled in one side of the pocket-section of the body, preferably at the center thereof. The shaft 15 is not ordinarily projected through to the opposite side, but is met at that side by a set-screw 16, as best shown in Fig. 3.

Upon the outer extremity of the shaft 15 a pulley 17, of any approved construction, is attached, by means of which the shaft is rotated. This pulley may be a grooved pulley to receive a belt, as illustrated in the drawings, or it may be a friction-pulley adapted for contact with the fly or hand wheel of a machine—a sewing-machine, for instance.

The shaft 15 and set-screw 16, in addition to passing through the side walls of the body, are also passed through hubs 18, one of which hubs is formed integral with each outer side face of the pocket-section. Each hub 18 has formed thereon an eccentric collar 19, (best shown in Fig. 1,) upon which collar the lower end of an upwardly-extending plate 20 is snugly fitted in such manner that it is capable of revolving upon the collar, the plate 20 being provided with a vertical slot 21 near its upper end and an outwardly-extending horizontal circular flange 22, integral with its upper edge, preferably at the center.

At the rear of the plate 20 a second plate 23 is located, which inner plate is provided with an elongated slot 24, (shown in dotted lines in Fig. 1,) and this second plate at its slotted lower end is also mounted upon the eccentric collar; but by reason of the slot 24 it is capable of free vertical movement. The inner plate is attached to the outer plate by means of a set-screw 25, which passes through the slot 21 in the outer plate. The set-screw 25 binds upon the outer plate, and thus when the outer plate is rocked upon its eccentric collar the inner plate is carried upward thereby. A collar $20^a$, placed on the hub 18 to a bearing against the collar 19 and secured by screws *a*, holds the plates 20 and 23 on the collar 19. It will be understood that plates 20 and 23 are located at each side of the body. The inner plate at its top is provided with an inwardly-extending horizontal flange 26, curved to correspond with the flange upon the outer plate, and at its upper edge at each corner is provided with upwardly-extending arms 27, and the arms of the plates at each side of the body are connected by means of suitable rods or bolts 28 and $28^a$, the bolt 28

passing through a sleeve 29, intervening the said arms, as illustrated in Fig. 2.

The connected plates 20 and 23 constitute a carriage, and are adapted for the reception of the blade of the scissors to be hollow-ground upon its wearing-face; but when the cutting-edge of the blade is to be ground it is placed upon the upper tapering face *b* of a block 30, held to slide upon the upper face of the angled end of the body. The block 30 is provided at its inner end, or that end opposite the peripheral surface of the grinding-wheel, with a slot 31 of sufficient width to receive said wheel, and the said inner end is upturned, and the upturned section is provided with an undercut recess 32, in which recess the blade 33, whose edge is to be sharpened, is placed, as shown in Fig. 1. The blade is held in proper position upon the block by means of a spring 34, the upper end of the spring being held to the vertical member of the angled end of the body, while the lower end of the spring has a bearing upon the upper face of the blade, as is also best illustrated in Fig. 1.

The block 30 is adjustable to and from the wheel by means of a set-screw 35, passed through the said vertical member and engaging the outer end of the block, being held in the vertical member by a screw or pin in said member entering an annular groove in the screw, and the block is also provided upon its under face with a binding-screw 36, adapted to slide in a slot in the horizontal member of the said angular end, as illustrated in dotted lines in Fig. 1. Thus when the block has been adjusted properly toward the wheel it is retained in said adjustment through the medium of the binding-screw 36.

In operation, when the flat surface of the blade is placed upon the flanges of the carriage and the said carriage is carried in the direction of the clamp 12, the surface of the blade is transversely presented to and brought in contact with the peripheral surface of the grinding-wheel and is gradually ground; but by reason of the eccentric mounting of the carriage with respect to the axis of the grinding-wheel while a maximum amount of the surface of the blade is presented for grinding the cutting-edge is kept out of contact with the wheel, and when the carriage is carried over in the direction of the block 30 the blade is carried entirely out of contact with the wheel. The carriage is locked in the position to grind the blade by means of a slotted curved latch-plate 37, attached to the rod or bolt $28^a$, connecting the inner arms of the carriage by a sleeve $28^b$, formed at the outer end of the latch. Through the slot of the latch 37 a binding-screw 38 is passed into the upper surface of the clamp end 12 of the body. The adjustment of the block 30 is provided in order that the said block may be carried in the direction of the grinding-wheel as said wheel wears away.

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

1. In a device of the character described, the combination, with a body provided with a pocket for a grinding-wheel, of a block held to slide upon the body and provided with an upturned inner end having an undercut recess in its outer face and a central recess to receive the peripheral surface of the wheel, and a spring attached at one end to the body and adapted at the other end for pressure upon the block, or a scissors-blade to be ground and placed upon the block, substantially as shown and described.

2. In a device of the character described, the combination, with a body provided with a pocket and a grinding-wheel mounted to revolve in the said pocket, of a block provided with an inclined upper face having its inner edge upturned and provided with an undercut recess in the outer face and a central recess to receive the periphery of the wheel, a spring attached to the body and extending over and essentially in contact with the block, and an adjusting-screw and a binding-screw connected with the block, substantially as shown and described, and for the purpose specified.

3. In a device of the character described, the combination, with a body portion provided with a pocket and a hub formed at each side of the said pocket integral with the body and provided with an eccentric collar, of a carriage having downwardly-extending arms mounted upon said eccentric collars, substantially as shown and described.

4. In a device of the character described, the combination, with a body portion provided with a pocket, and a hub formed at each side of the said pocket integral with the body and provided with an eccentric collar, of a carriage having downwardly-extending plates provided with slots to receive said eccentric collars, and plates fitted to said eccentric collars and to which the first plates are adjustably held, substantially as shown and described.

5. In a device of the character described, the combination, with a body portion provided with a pocket, and a hub formed at each side of the said pocket integral with the body and provided with an eccentric collar, of a carriage having downwardly-extending plates provided with slots to receive said eccentric collars, plates fitted to said eccentric collars and to which the first plates are adjustably held, and a lock-latch pivoted on the carriage and adjustably held to the body, substantially as shown and described.

6. In a device of the character described, the combination, with a body portion provided with a pocket, a hub formed at each side of the said pocket integral with the body and provided with an eccentric collar, a shaft journaled in the said hubs, and a grinding-wheel attached to the shaft within the pocket,

of a carriage consisting of two plates located at each side of the pocket, the outer plate being provided with an upper vertical slot and apertured at its lower end to fit the eccentric collar of the hub, the inner plate being provided with an elongated opening near its lower end fitted over the said collar, arms projected from the upper portion of the inner plate, a horizontal flange formed at the top of the same, a set-screw passed through the slot of the outer plate into the inner plate, and a connection, substantially as shown and described, between the arms of the two sets of plates, as and for the purpose specified.

7. In a device of the character described, the combination, with a body portion provided with a pocket, a hub formed at each side of the said pocket integral with the body and provided with an eccentric collar, a shaft journaled in the said hubs, and a grinding-wheel attached to the shaft within the pocket, of a carriage consisting of two plates located at each side of the pocket, the outer plate being provided with an upper vertical slot and apertured at its lower end to fit the eccentric collar of the hub, the inner plate being provided with an elongated opening near its lower end fitted over the said collar, arms projected from the upper portion of the inner plate, a horizontal flange formed at the top of the same, a set-screw passed through the slot of the outer plate into the inner plate, a connection, substantially as shown and described, between the arms and the two sets of plates, a slotted latch adapted for connection with one set of arms, and a binding-screw passed into the slot of the latch and into the body, as and for the purpose specified.

8. In a device of the character described, the combination, with a body provided with a central vertical pocket and a clamp at one end, a shaft mounted in the body, and a grinding-wheel secured to the said shaft and held to revolve within the pocket, of a rocking carriage eccentrically attached around the shaft and provided with supporting-flanges upon its upper end, a lock-latch attached to the said carriage, a block provided with a tapering upper surface held to slide upon the body in front of the wheel, having an upturned slotted inner end, a spring attached to the body at one end and projected downward from the inclined face of the block, and means, substantially as shown and described, for adjusting the said block laterally.

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