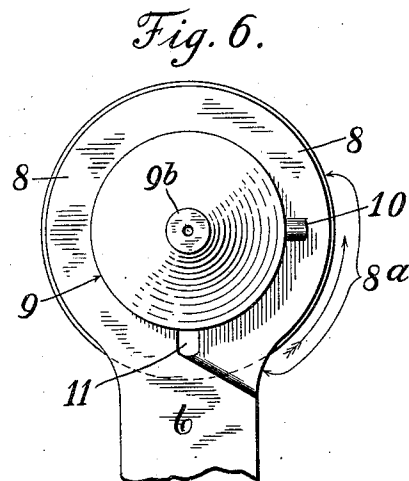
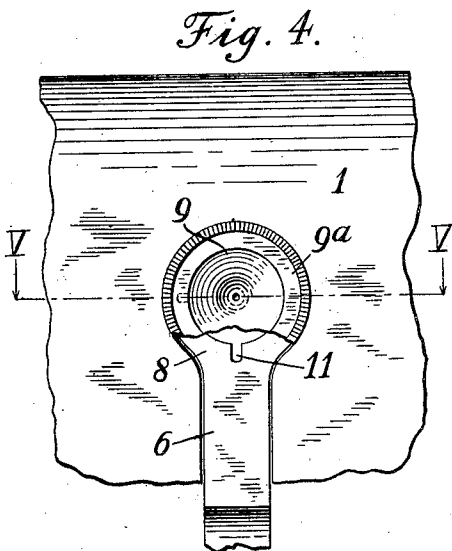
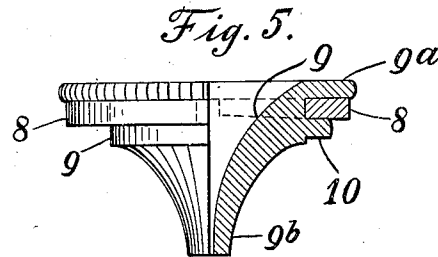
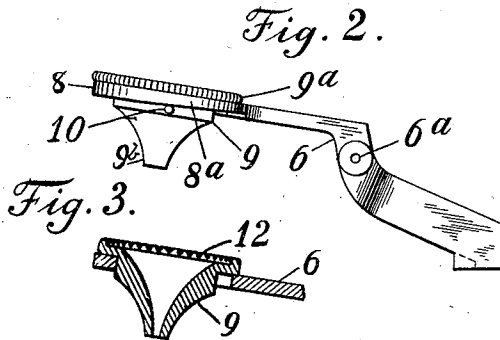
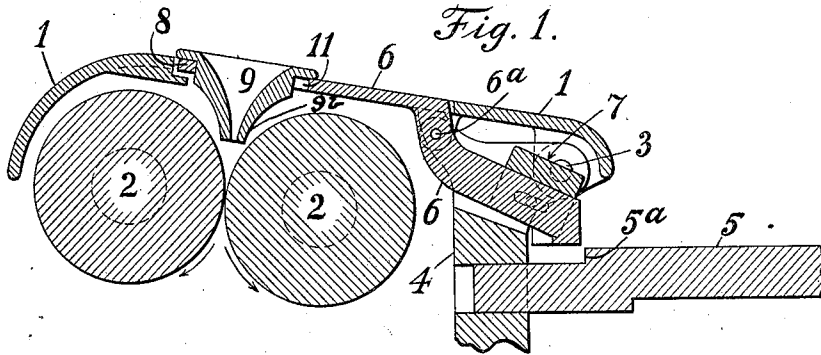


O. L. OWEN.
SLIVER GUIDE.
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Patented Dec. 17, 1912.



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SLIVER-GUIDE.

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To all whom it may concern:

Be it known that I, OSCAR L. OWEN, a citizen of the United States, residing at Whitinsville, county of Worcester, State of Massachusetts, have invented certain new and useful Improvements in Sliver-Guides, of which the following is a full, true, and concise specification.

The invention is an improved means for holding the condenser-trumpets of drawing frames and similar sliver working machines, so that such trumpets can be readily and quickly removed and supplanted by others of different size, and the invention provides means whereby such removal and insertion of trumpets can be accomplished by the hands alone without the labor or delay incident to the use of tools for that purpose.

The condenser-trumpets of sliver working machines ordinarily form part of the stop-motion apparatus, for which purpose they are carried on the end of one of the arms of a trumpet-holding lever, the other arm of which carries a counterweight, or is otherwise suitably counterbalanced, so that failure of the sliver passing through the trumpet, or an abnormal decrease in its tension, permits the lever to swing under the action of its counterbalancing means into coöperative position with some other part and thereby bring about the immediate stopping of the machine. The desirability of keeping the counterweights of such levers as small as possible because of the limited space in which they have to move, imposes a practical limitation on the amount or weight of metal that can be employed in the counterbalanced arm and trumpet, the trumpet-holding arms being preferably as slender as the duty upon them will permit.

My invention provides the advantages above mentioned, of quick removability and security of attachment for the condenser trumpet, in connection with a holding arm therefor which is lighter or at least no heavier than existing forms, wherein the trumpet, if removable at all, is secured in place by setscrews, and, moreover, adds to such constructions the further advantage that a large part of the machine work therein is eliminated.

In the accompanying drawings I have illustrated a preferred embodiment of my invention, wherein—

Figure 1 is a vertical section through the

longitudinal axis of a holder and its trumpet, and certain of their related parts; Fig. 2 is a side elevation of the holder and trumpet; Fig. 3 is a modification showing the trumpet in section; Fig. 4 is a top plan of a portion of Fig. 1; and Fig. 5 is a sectional view of the trumpet on line V—V of Fig. 4 in the direction of the arrows, and on a slightly enlarged scale. Fig. 6 is a bottom plan of Fig. 5 on the same scale.

In Fig. 1 the sliver guiding trumpet and its holder are mounted on the metallic cover 1 which protects and covers the sliver-conducting rolls 2 through which the sliver (not shown) is drawn from the trumpet and delivered to a suitable can or other device located beneath the said rolls. The roll cover 1 is hinged on an axis marked 3, to the top of a fixed bracket 4 which forms the support for the sliding bar member 5, of a common form of stop motion mechanism, not shown in the drawings nor necessary to be described herein. It will be understood that such bar is normally reciprocated while the machine is in operation, and that by stopping its forward movement certain instrumentalities are thereby brought into operation which arrest the motion of the machine. The trumpet holder is marked 6 and is pivoted to the cover on the axis 6^a so that it can swing thereon, the proper conditions arising, into the path of a shoulder 5^a of the stop motion bar 5 and thereby obstruct the forward motion of that bar to stop the machine, as just explained. The rearward arm or end of the holder is made relatively massive and heavy as compared with the forward trumpet-holding arm, so that it tends naturally to fall into its obstructing position with respect to the stop motion bar. An adjustable counterweight 7 increases this tendency. The trumpet-holding arm being relatively thin and of comparatively light weight, as above stated, extends upwardly and forwardly from the pivotal axis 6^a so as to lie substantially in the plane of the top of the roll-cover, occupying a suitable recess in such cover, which recess appears more plainly in the plan view of Fig. 4. The upper surface of the arm is flat corresponding to the top of the roll cover and at the extreme forward end the arm is laterally enlarged and provided with a round opening which forms a terminal trumpet-holding-ring 8. The trumpet 9 has a top or rim

flange 9^a of about the same diameter as the ring 8 and adapted to seat thereagainst, that is to say upon the margin of the round opening, with its funnel-shaped nozzle portion 9^b protruding downwardly through the opening and toward the bite of the rolls 2, as shown by Fig. 1. The trumpet constitutes a condensing guide for the sliver which it delivers to the rolls, and the frictional pull of the sliver thereon, added to the weight of the trumpet and its supporting arm, is normally sufficient to overbalance the weighted rearward arm so as to maintain the latter out of the path of the stop motion bar 5. Abnormal decrease of the sliver tension allows the rear arm to drop by gravity into its obstructing position to stop the machine.

The terminal ring 8 is made with the underside of the margin of its trumpet-holding opening, inclined or sloped, depthwise of such opening, to form a surface of gradual inclination or pitch extending circumferentially about halfway around the underside of the ring; one of the limbs of said ring being thus tapered to a less thickness at one end than at the other, and at its point of least thickness the ring is provided with a radial notch or clearance opening 11. The trumpet carries a laterally projecting lug 10 which is adapted to pass through this opening, and such lug is so located that when the flange 9^a of the trumpet rests flat upon the top of the ring, it will be in a position to be brought into binding engagement with the inclined undersurface 8^a by the rotation of the trumpet in the appropriate direction, after the manner of a bayonet joint attachment. The surface 8^a having a very gentle inclination as above stated, is also left in the rough condition in which cast so that the lug will readily bind or seize thereon when thus rotated and thereby hold the trumpet securely clamped to its seat without liability of becoming loosened by the vibration of the machine. The force required for thus binding the trumpet to the ring and for releasing it therefrom is applied through the instrumentality of a hand-gripping element formed on the rim flange 9^a thereof which is extended either laterally beyond the edge of the ring 8 or else perpendicularly to it and also knurled or roughened so that a proper surface will be afforded by which to grasp the trumpet and turn it. In Fig. 2 the knurled handgrip is

shown laterally extended, and in Fig. 3 it is perpendicularly extended in the form of an annular lip or rim. In both cases, it will be evident that the trumpet can be readily manipulated without the use of tools. The portion of the trumpet just beneath the rim flange is preferably made cylindrical so as to fit the circular terminal ring with fair closeness and the lug 10 is carried by this cylindrical portion of the trumpet.

I claim:

1. A sliver guide comprising a counter-balanced pivoted trumpet holder having a terminal, trumpet-holding ring, one of the limbs thereof being sloped depthwise of the axis of said ring, and on the under side thereof, in combination with a trumpet seated in said ring, and having a lug adapted to engage and bind on the sloped surface of said limb by rotation of the trumpet therein.

2. A sliver guide comprising a pivoted trumpet holder, provided with a trumpet-holding ring at its extremity, said ring having its under surface sloped depthwise of the axis thereof, and provided with a radial notch at the entrance to said sloped surface, in combination with a trumpet rotatably seated upon said ring and having a lug corresponding with said notch, arranged to be below the ring when the trumpet is in position and to co-act with said sloped surface, whereby rotation of said trumpet causes said lug to bind the trumpet to its seat.

3. A stop-motion sliver guide comprising, in combination, a pivoted guide-holding lever having a thin flat trumpet holding ring at its end, one of the limbs of said ring being gradually sloped or tapered to a less thickness than the other limb and provided with an entrance notch or slot, and a trumpet provided with a flange seated on said ring and a laterally projecting lug corresponding to said notch and adapted to extend below the ring to be revolved into holding engagement with the gradually sloped surface thereof by the rotation of the trumpet within the ring.

In testimony whereof, I have signed this specification in the presence of two witnesses.

OSCAR L. OWEN.

Witnesses:

HARMON O. NELSON,
CHARLES A. ALLEN.