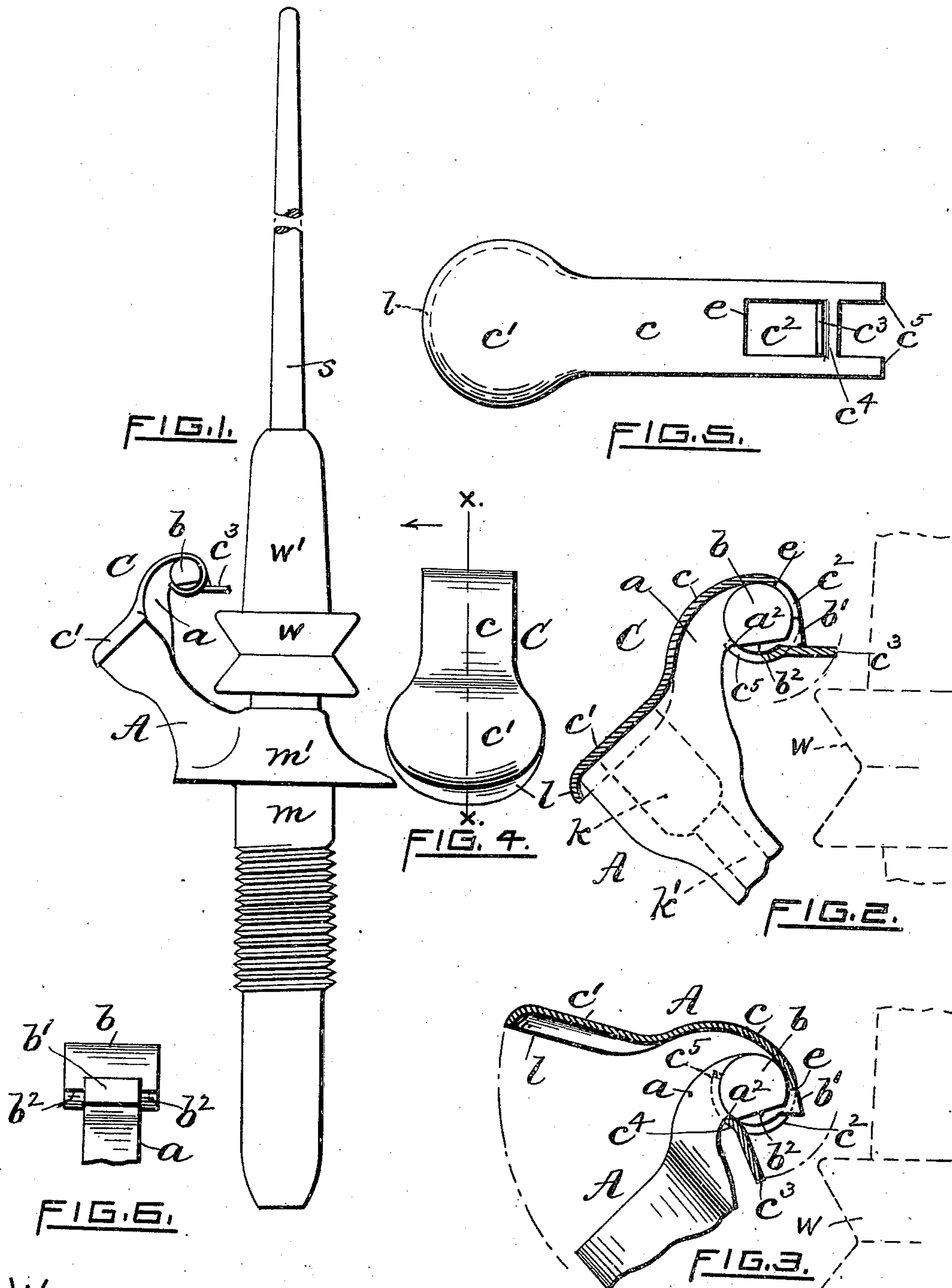


R. S. MATTESON.
DOFFER GUARD FOR SPINNING MACHINES.
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948,650.

Patented Feb. 8, 1910.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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DOFFER-GUARD FOR SPINNING-MACHINES.

948,650.

Specification of Letters Patent.

Patented Feb. 8, 1910.

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To all whom it may concern:

Be it known that I, RUFUS S. MATTESON, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Doffer-Guards for Spinning-Machines, of which the following is a specification.

My present invention relates to an improved doffer-guard, so-called, and support therefor for the spindles of spinning-machines, and it consists in the novel construction and combination of parts, as more fully hereinafter set forth and claimed.

The object of the invention is to provide mounted spindles of the class referred to with a swinging doffer-guard of peculiar construction, the same possessing increased efficiency and lightness, and being devised so that it can be produced at a materially reduced cost as compared with articles of this character heretofore in use.

In carrying out this invention the oil-spout member, which is integral with the bolster-case and its base, is provided with an extension or arm having its upper or free end arranged to receive and support thereon a light sheet-metal swinging self-dropping doffer-guard capable of being detachably connected thereto, and having the arm provided with a stop arranged to engage the guard member for limiting the latter's upward angular movement. The fulcrum end of the guard is adapted to be sprung into position on the said arm, thereby dispensing with the pivot or joint-pin usually employed. The opposite portion of the guard is adapted to rest upon the upper end of the oil-spout so as to completely cover and protect the oil-hole and is bent downward to form an overhanging peripheral lip or flange to prevent the entrance of lint and foreign matter into the oil-duct.

In the accompanying sheet of drawings, Figure 1 represents a side elevation of a spindle-support complete provided with an oil-spout and doffer-guard embodying my improvement associated therewith. Fig. 2 is a partial side elevation, on enlarged scale, of the oil-spout and its extension, showing the doffer-guard mounted thereon and being in the normally dropped position, as in use; the latter is shown in section corresponding

with line $x-x$ of Fig. 4. Fig. 3 is a similar view, showing the doffer-guard swung upward to its limit. Fig. 4 represents a front elevation of the doffer-guard as viewed from the left of Fig. 2. Fig. 5 is a top plan view of the guard or blank, showing the shank portion before bending, and Fig. 6 is a partial side elevation of the said arm or extension, corresponding with and as viewed from the right of Fig. 3.

It may be stated here that the bolster-case m , its base part m^1 , the whirl w , its sleeve w^1 , and spindle-blade s are or may be constructed and arranged substantially as usual, since I make no specific claim herewith to these parts.

The oil-spout member A (Fig. 1) extends upwardly at an angle with the base m^1 and is provided with an oil-duct, k, k^1 , indicated in Fig. 2. It is further provided with an integral upwardly extending bent arm a disposed in the vertical plane with the spout and terminates in an integral cylindrical-shaped horizontal trunnion member b ; its horizontal axis being arranged at substantially right angles to the spindle's axis. The outer end portions of the part b extend beyond the sides of the arm and are cut away on the lower side to form shoulders b^2 . The rear part of the cylindrical member b has a lug b^1 projecting therefrom and being integral therewith (Figs. 2 and 3), its length as drawn being equal to the width or thickness of the arm a . See Fig. 6. This lug may be utilized as a stop for limiting the angular movement of the doffer-guard. The said doffer-guard member, C, is formed from a suitably shaped blank cut from thin stock, as sheet-steel. One end of the guard is materially larger than the shank portion c and is substantially flat and circular in form, as indicated at c^1 , its outer edge being bent downward to produce a circumscribing flange or lip l . The member c^1 of the guard constitutes a lid or cover and when in use rests directly upon the upper end of the oil-spout to protect and conceal the oil-duct; at the same time the flanged part serves to keep the outer surface of the guard in a clean condition, since its presence acts to prevent oil from passing beyond it. The opposite end portion of the guard's shank has an opening c^2 therein, some or all of the

corresponding stock being bent upward or outward to form the projection c^3 (which latter is the doffer-guard proper) but being united to the shank by the narrow tie or bridge c^4 . See Figs. 2, 3 and 5. The width of said opening c^2 slightly exceeds the length of the lug b^1 . The extreme end part of the shank is cut away so as to form the two parallel narrow side members c^5 . The shank part of the guard-blank, shown in Fig. 5, is pressed or shaped to conform to the contour of the upper edge of the arm a , including the trunnion part b . Now, upon placing the guard in the approximately normal position with relation to but at the rear of the member b the manner of attaching it to the last-named member is as follows: The free ends of the curved and somewhat resilient side members c^5 of the annular journal, as it may be termed, are caused to first engage the respective overhanging surfaces b^2 (the lug b^1 then registering with the opening c^2) followed by pressing or drawing the guard ahead, the parts c^5 at the same yielding until their ends slide past the said surfaces onto the cylindrical part, thereby readily and quickly completing the operation. I prefer to construct the device so that upon dropping the guard to its normal position, shown in Fig. 1, the end of the members c^5 will then engage the cylindrical part of the trunnions b thus permitting free swinging movement of the guard and preventing it from being accidentally disconnected or unhinged. It may be added that the guard can be removed when desired by simply lifting its free end a short distance and pressing it rearwardly, toward the spindle, thereby causing the free ends of the parts c^5 to spring downward from the cylindrical or concentric surface and engage the flat surfaces b^2 , the continued rearward movement completely freeing the guard.

The pivot or trunnion portion and the guard element c^3 are disposed with relation to the whirl w so that said element when in its normal position (shown in Figs. 1 and 2) serves to hold the spindle in place during the doffing or cop-removing operation, and also allows the guard to be readily operated to permit the removal of the whirl, spindle, &c., from the bolster-case, and for introducing lubricant into the oil-duct. In the latter event the operator is supposed to hold the doffer-guard in the elevated or open position, see Fig. 3. Upon releasing the upheld guard it will automatically drop to the normal or closed position. The self-closing doffer-guard is adapted to be operated by the whirl itself during the insertion of the spindle, &c., in the bolster.

While the drawing (Fig. 3) shows the annular journal in actual engagement with both the arm and its lug, at a^2 and e respectively, for limiting the upward tilt or swing

of the member C, it is obvious that either one alone or other analogous means may be employed for the purpose. In any event, however, the annular journal portion is adapted to be sprung over the trunnion and into the normal operative or swinging position, thereby dispensing with an element, *i. e.*, an insertible joint-pin, heretofore used in connection with the guard and its fellow support.

Having thus described my invention what I claim as new and desire to secure by United States Letters Patent, is:—

1. An integral doffer-guard having one end thereof provided with a flanged cover or cap member, the opposite end portion bent to an open eye-form or annular journal and provided with an extension constituting the guard proper, the termination of said eye-part capable of being sprung over a supporting member.

2. The one-piece doffer-guard herein described formed from a sheet-metal blank, the same comprising a cover part having downwardly bent edges and a shank portion extending therefrom terminating in a resilient annular journal member having a portion of its wall cut away and then bent outward to form the guard proper.

3. In a spindle-support of the character described, the combination with an oil-spout having an extension or arm provided with a horizontally disposed trunnion member integral therewith, of a doffer-guard terminating at one end in an annular journal whereby the guard is adapted to be detachably connected to the trunnion without the use of a joint-pin, and means for limiting the upward angular movement of the guard member.

4. The combination with a bolster-case having an upwardly inclined oil-spout and an extension therefrom terminating in a horizontally disposed pivot or trunnion member integral therewith provided with a laterally projecting stop-lug, of a one-piece swinging sheet-metal doffer-guard yieldingly mounted on the trunnion and capable of engagement with said lug provided with an outwardly extending guard element, and a flanged portion normally resting upon and forming a cover for the oil-spout.

5. In a spindle-support having an oil-spout and an extension or arm integral with the latter provided with a stationary trunnion and a stop-lug, the combination thereof with of a swinging sheet-metal doffer-guard having an end portion thereof bent to form an annular journal sprung over and supported by said trunnion and engageable with its stop-lug, a projecting element, c^3 , integral with said journal part, and a cover or lid integral with the doffer-guard normally resting on the oil-spout and closing its opening.

6. In a spindle-support having an oil-

spout and a horizontal trunnion member integral with the latter, of a swinging sheet-metal doffer-guard yieldingly journaled on said trunnion and normally resting on and
5 closing the oil-spout, means integral with the trunnion and cooperating with said journal for limiting the angular movement of the doffer-guard, and a projecting ele-

ment, c^3 , integral with the latter, for the purpose set forth.

In testimony whereof I have affixed my signature, in presence of two witnesses.

RUFUS S. MATTESON.

Witnesses:

GEO. H. REMINGTON,
CHARLES W. BOARDMAN.

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