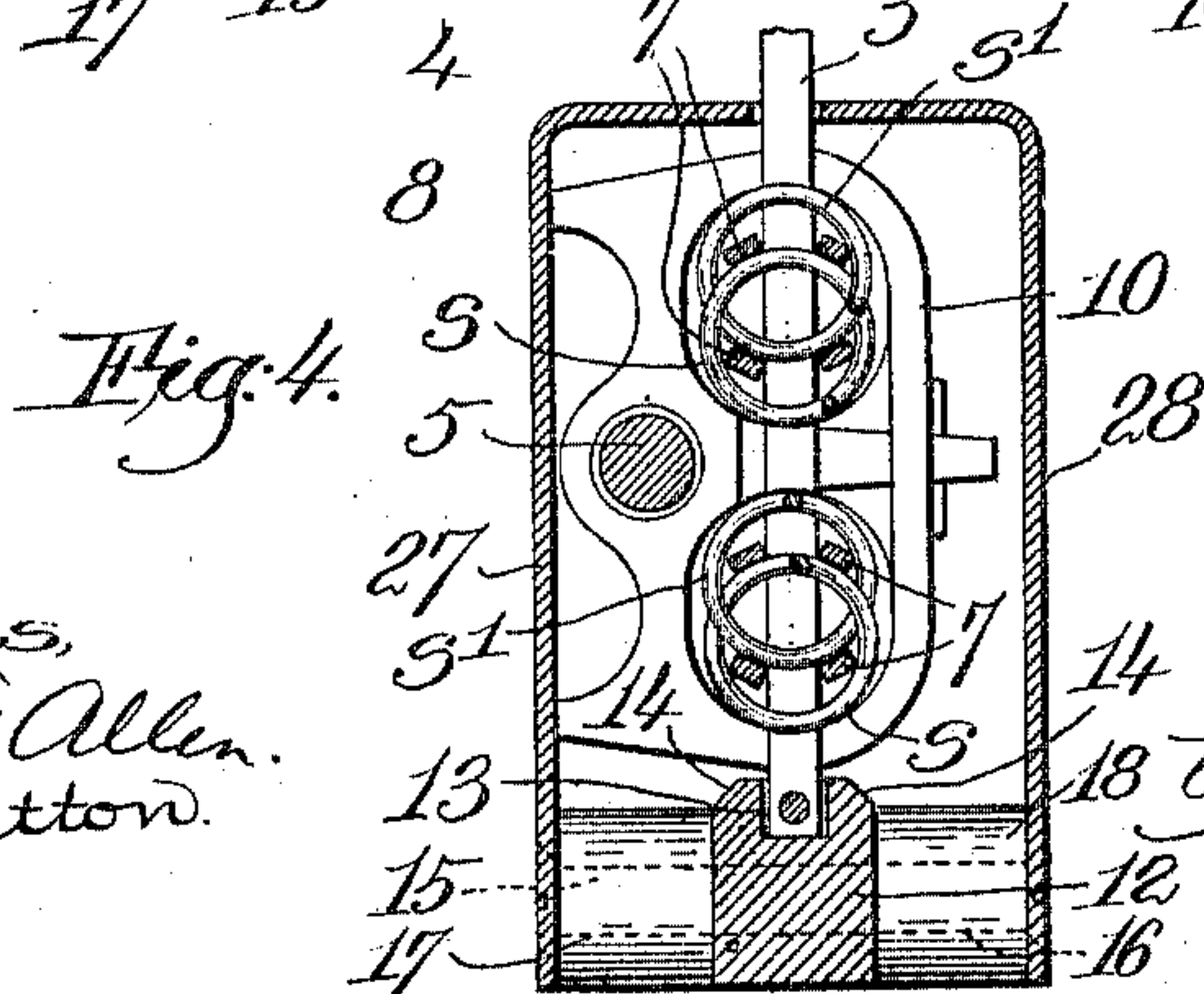
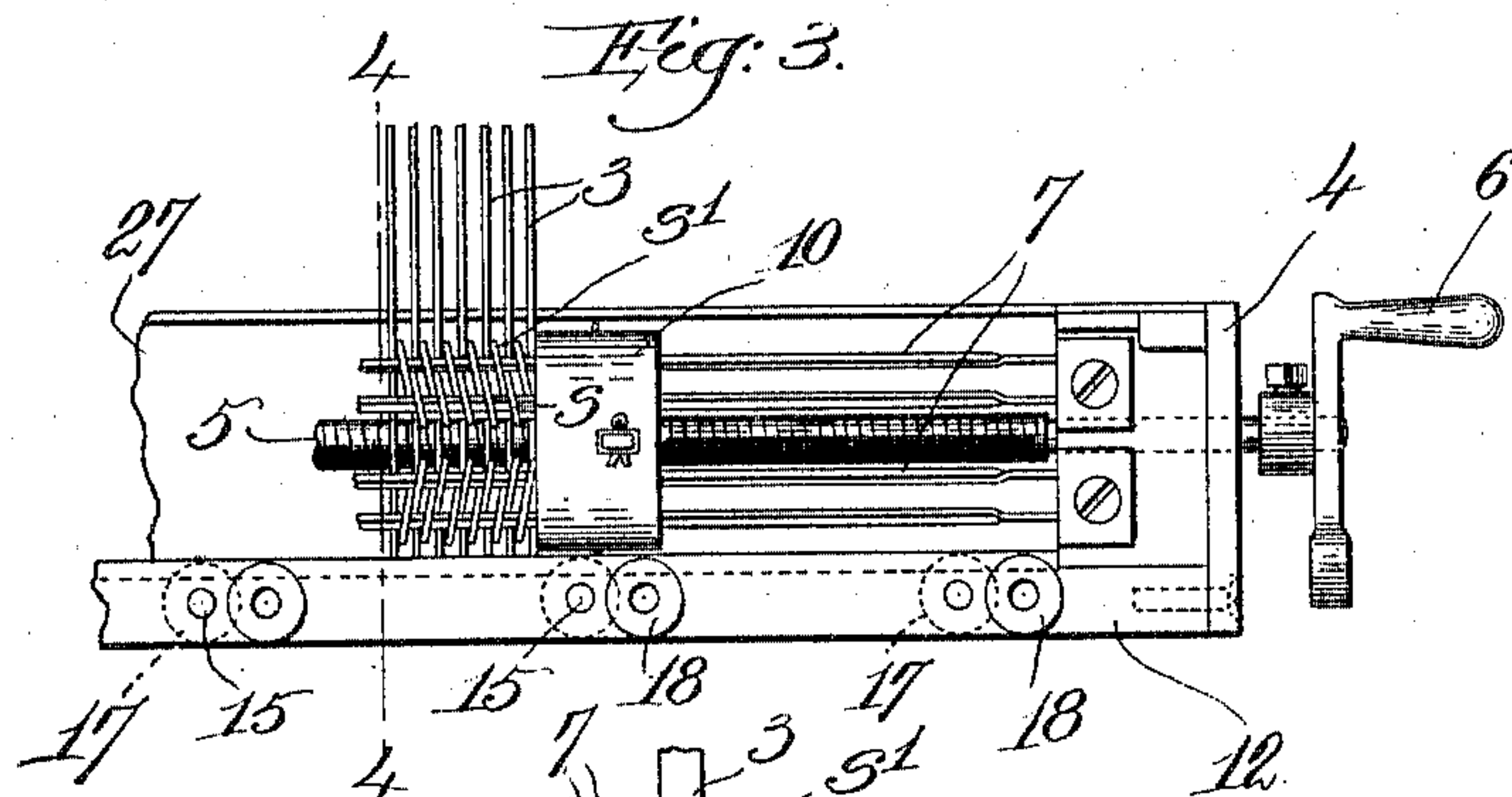
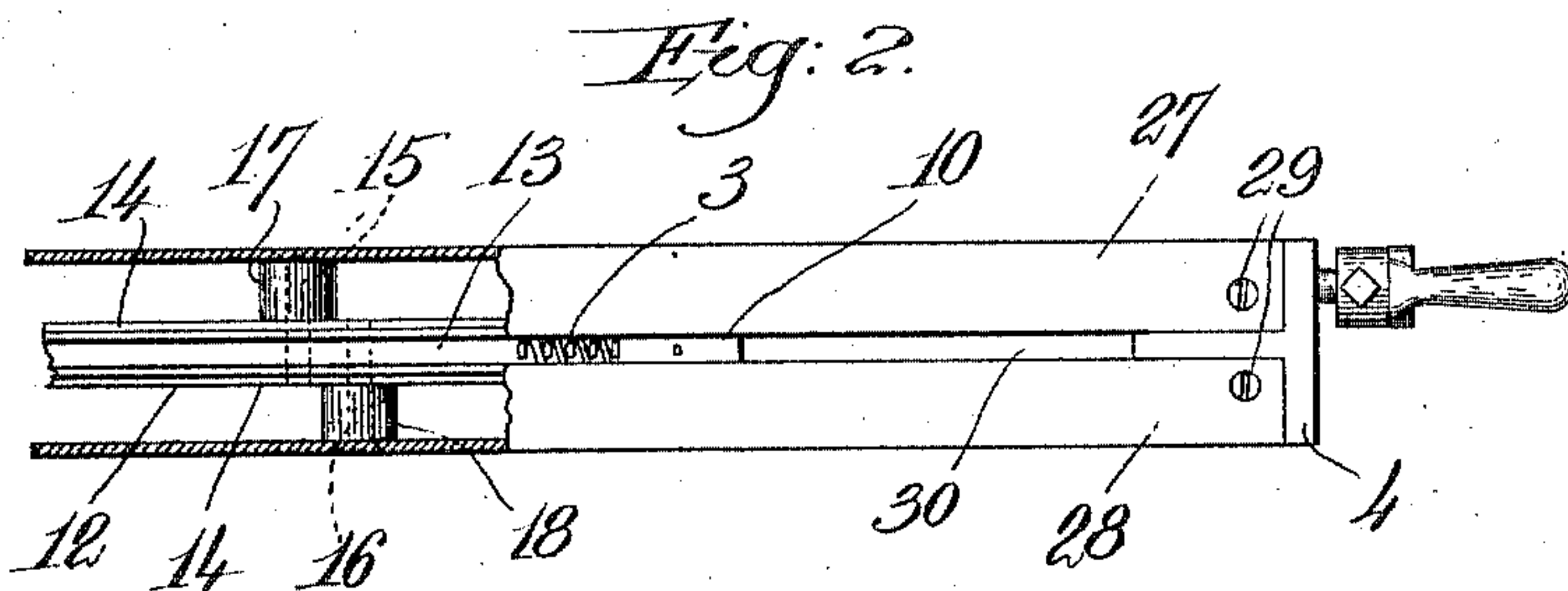
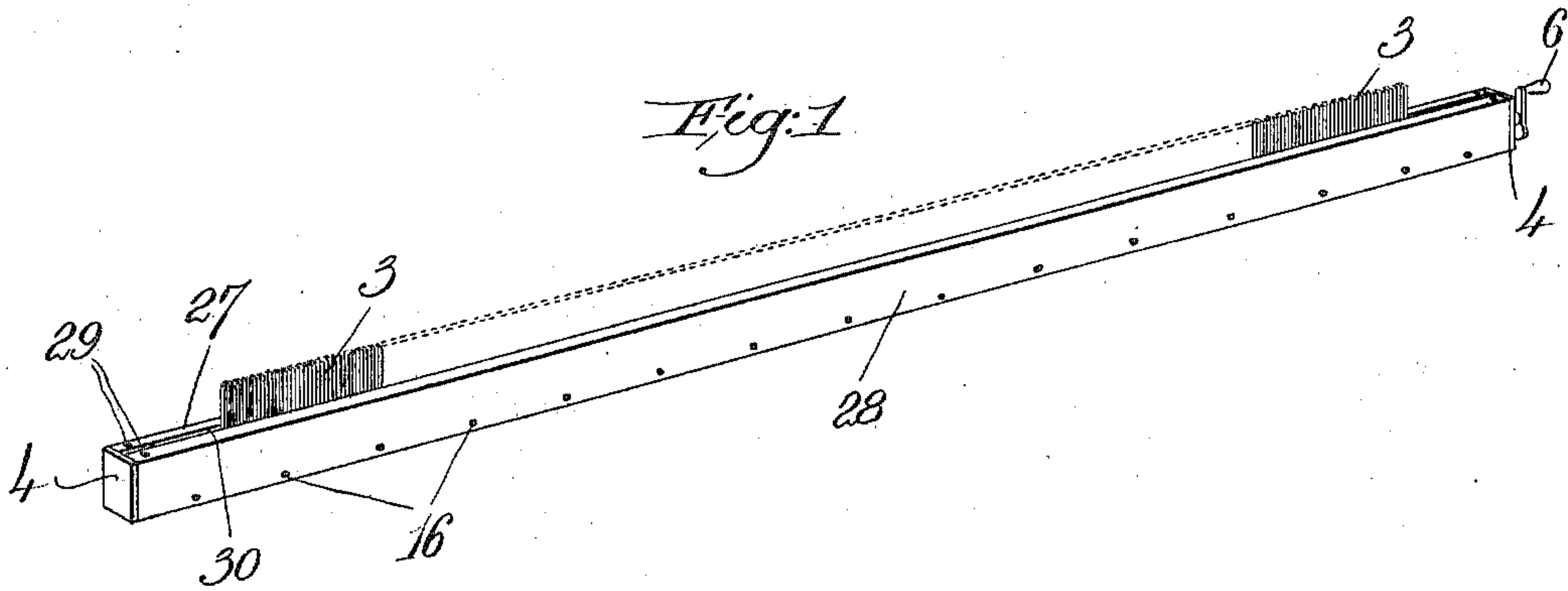


No. 817,093.

PATENTED APR. 3, 1906.

A. E. RHOADES.  
WARPER COMB.

APPLICATION FILED JULY 31, 1905.



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# UNITED STATES PATENT OFFICE.

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## WARPER-COMB.

No. 817,093.

Specification of Letters Patent.

Patented April 3, 1906.

Application filed July 31, 1905. Serial No. 271,882.

*To all whom it may concern:*

Be it known that I, ALONZO E. RHOADES, a citizen of the United States, and a resident of Hopedale, county of Worcester, State of Massachusetts, have invented an Improvement in Warper-Combs, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention relates to combs used on warpers to separate the threads leading to the beam; and it has for its object the production of a warper-comb so constructed and arranged that the casing will not clog by the collection of lint, fluff, or dyestuff from the warps.

In beaming or rebeaming dyed or heavily-sized warps it frequently happens that dried portions of dyestuff or dressing mixed with more or less loose lint or fluff will be scraped off as the warps pass through the dents of the comb. This material thus scraped off drops into the casing of the comb, such casing ordinarily having a solid base-piece extending from end to end of the casing, with a central longitudinal guide for the lower ends or feet of the warp guides or dents, and as the deposited material cannot escape the casing becomes more or less filled up, clogging the dents and the springs usually employed to sustain and laterally position the dents.

A warper-comb of the construction referred to is shown and described in United States Patent No. 772,582, granted to me October 18, 1904, and as other features of construction therein shown are very efficient I have shown my present invention embodied in a comb of the general structure therein illustrated.

In accordance with my present invention the casing of the comb is made with an open bottom, so that material scraped from the warps as they pass through the dents will drop and pass out of the casing by way of its open bottom, obviating any clogging or filling up.

The various novel features of my invention will be fully described in the subjoined specification, and particularly pointed out in the following claims.

Figure 1 is a perspective view of a warper-comb embodying my invention. Fig. 2 is a

partial top plan view thereof, enlarged, the top of the casing being broken out at the left and the dents and springs omitted thereat to show the open bottom of the casing, the central longitudinal guide for the feet of the dents, and the means for connecting said guide and the front and back of the casing. Fig. 3 is a much enlarged detail, in front elevation, of the comb with the front of the casing removed; and Fig. 4 is a transverse section, on a larger scale, on the line 4 4, Fig. 3, looking to the right.

The upright warp guides or dents 3, the end pieces 4, the coiled springs  $s$   $s'$ , the rotatable right and left hand screw-threaded adjusting shaft or rod 5, mounted in the ends 4 and having an attached handle 6, the guides 7, extended through the springs, and the two-part sleeves 8 10, to which the springs are attached, may be and are all substantially as in my said patent and operate as therein set forth, the two-part cover 27 28 of sheet metal also being such as therein shown.

In the present embodiment of my invention the ends 4 are rigidly secured to a preferably metallic base-bar 12, extended longitudinally from one to the other end of the casing, said base-bar being relatively narrow as compared with the width of the casing, (see Figs. 2 and 3,) a longitudinal recess 13 in the top of the base-bar forming a guide for the lower ends or feet of the dents 3. At each side of the guide the top of the base-bar is beveled off at 14 to shed lint or any dropped material from off the bar.

The two parts 27 and 28 of the cover are attached at their ends to the end pieces 4 of the stand in any suitable manner, as by screws 29, the overturned edges of the cover portions leaving a longitudinal clearance 30 for the dents. I secure the lower portions of the cover to the base-bar 12 by means of screws 15 16, the former passing through the cover portion 27 into the base-bar, spacing-collars 17 being interposed between the cover portion and the bar to firmly support the former. Similarly the screws 16 connect the front portion 28 of the cover with the base-bar, collars 18 serving to space the cover and secure a firm and rigid attachment thereof to the base-bar.

I have shown the cover-holding screws 15 and 16 arranged in pairs and laterally offset



from each other, as clearly shown in Figs. 2 and 3, leaving elongated openings between the collars 17 of one series and the collars 18 of the other series, through which any material scraped from the warps can drop. The convex surfaces of the collar prevent the collection of such material thereon, as will be manifest.

By the construction shown the comb-stand is provided with an open bottom for the escape of any matter dropping into the stand, while the structure as a whole is firm and rigid.

My invention is not restricted to the precise construction shown and described, as the same may be varied or modified by those skilled in the art without departing from the spirit and scope of my invention.

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

1. In a warper-comb, an elongated stand comprising upright end pieces, a connecting base-bar, a two-part cover, means to connect the cover parts and the base-bar at intervals, leaving discharge-openings between said connecting means, and upright warp guides or dents sustained within the stand and projecting upward through the cover.

2. In a warper-comb, an elongated stand comprising upright end pieces, a narrow, central base-bar connecting the end pieces and forming a guide for the feet of the dents, a cover, means to rigidly connect it with the base-bar with clearance-openings therebetween, upright dents, and means to sustain and laterally position the same.

3. In a warper-comb, an elongated stand comprising upright end pieces, a narrow, central base-bar connecting the end pieces and forming a guide for the feet of the dents, a two-part cover, spacing-collars interposed between the cover parts and the base-bar on opposite sides of the latter, connecting-screws passing through the collars into the bar, and warp guides or dents supported in the stand and extended upward between the two parts of the cover.

4. In a warper-comb, an elongated stand comprising a cover, end pieces, a narrow central member rigidly connecting them near their lower ends and having clearance-openings between it and the lower portions of the cover, warp guides or dents, and controlling means therefor mounted in the stand.

5. An elongated stand for warper-combs, comprising end pieces, a narrow, central base-bar connecting them, and a sheet-metal cover spaced from the base-bar and rigidly secured

thereto at intervals, to leave discharge-openings in the bottom of the stand.

6. In a warper-comb, upright warp guides or dents, means to sustain and laterally position them, and a stand therefor comprising end pieces, front and back cover portions, a narrow, central base-bar attached to the end pieces, annular spacing devices arranged in pairs on opposite sides of the base-bar and interposed between it and the cover portions, said pairs of devices being laterally offset, and attaching-screws connecting the cover portions and the base-bar and passing through the said spacing devices.

7. In a warper-comb, upright warp guides or dents, means to sustain and laterally position them, and a stand therefor, comprising end pieces, a central, connecting base-bar having a longitudinal dent-guide in its top, a metallic cover, and means to connect the latter and the base-bar at intervals and maintain the cover at a fixed distance from the base-bar.

8. In a warper-comb, upright warp guides or dents, means to sustain and laterally position them, and a stand therefor, comprising end pieces, a central, connecting base-bar, a metallic cover, connections arranged in laterally-offset pairs to connect the base-bar and the front and back portions of the cover, and annular spacing-collars interposed between the said parts of the cover and the base-bar and retained in place by the said connections.

9. In a warper-comb, upright warp guides or dents, means to sustain and laterally position them, and a stand therefor, comprising end pieces, a central, connecting base-bar having a longitudinal dent-guide in its top, and downwardly beveled at each side of the guide, a metallic cover having an opening or clearance through which the dents project, and means to rigidly connect the cover and the base-bar and leave clearance or discharge openings at each side thereof from one to the other of said end pieces.

10. A stand for warper-combs, comprising end pieces, a narrow, central bar connecting them at their bases, and a cover spaced from the bar and rigidly connected therewith at intervals, to leave discharge-openings in the bottom of the stand.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALONZO E. RHOADES.

Witnesses:

GEORGE OTIS DRAPER,  
ERNEST W. WOOD.