No. 842,864. PATENTED FEB. 5, 1907.

C. W. CURRIER & J. LEITSCHUH.

COLLAR SHAPING ATTACHMENT.

APPLICATION FILED JULY 7, 1904.

3 SHEETS—SHEET 1.

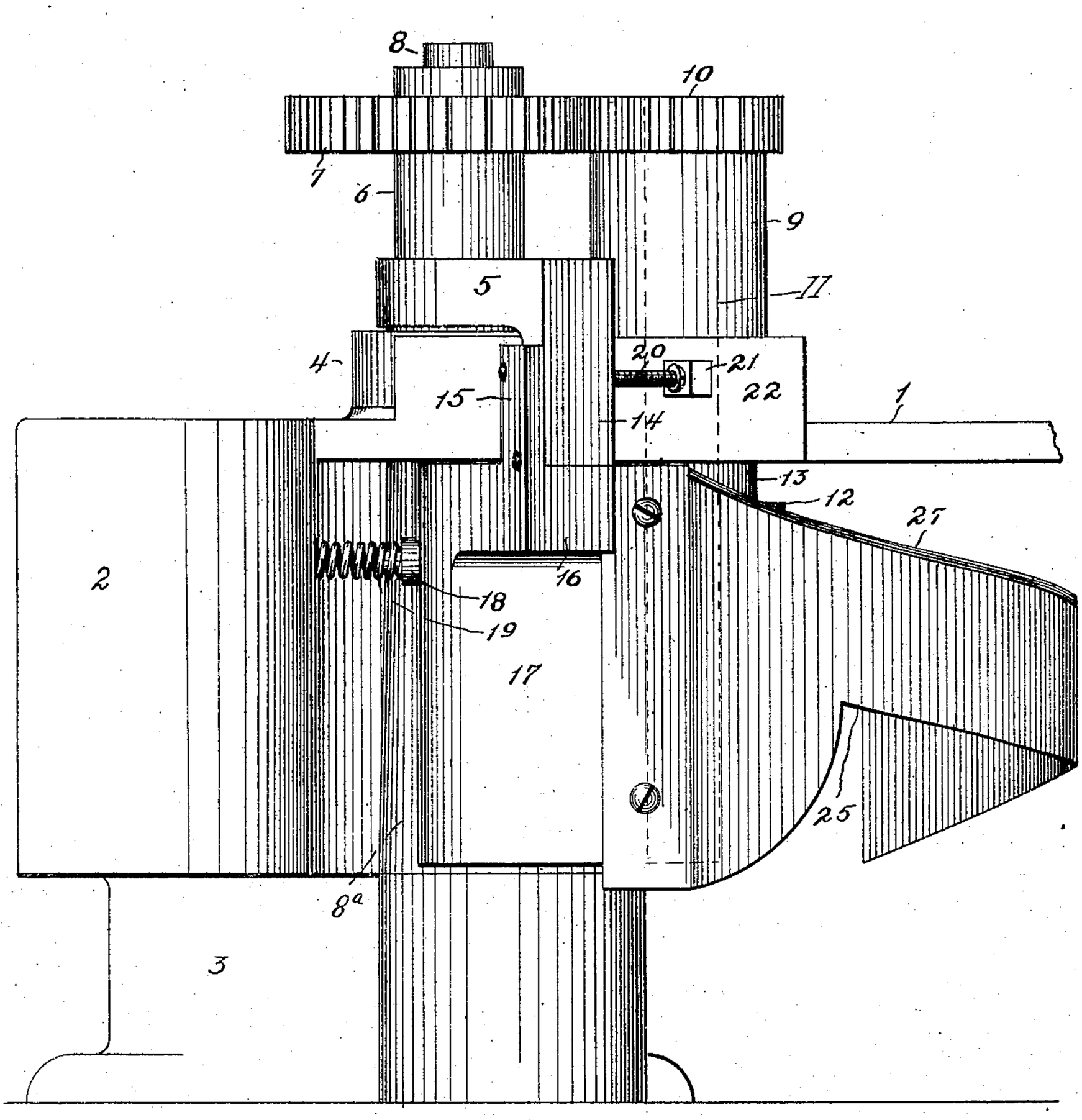

Fig. 1.

WITNESSES:

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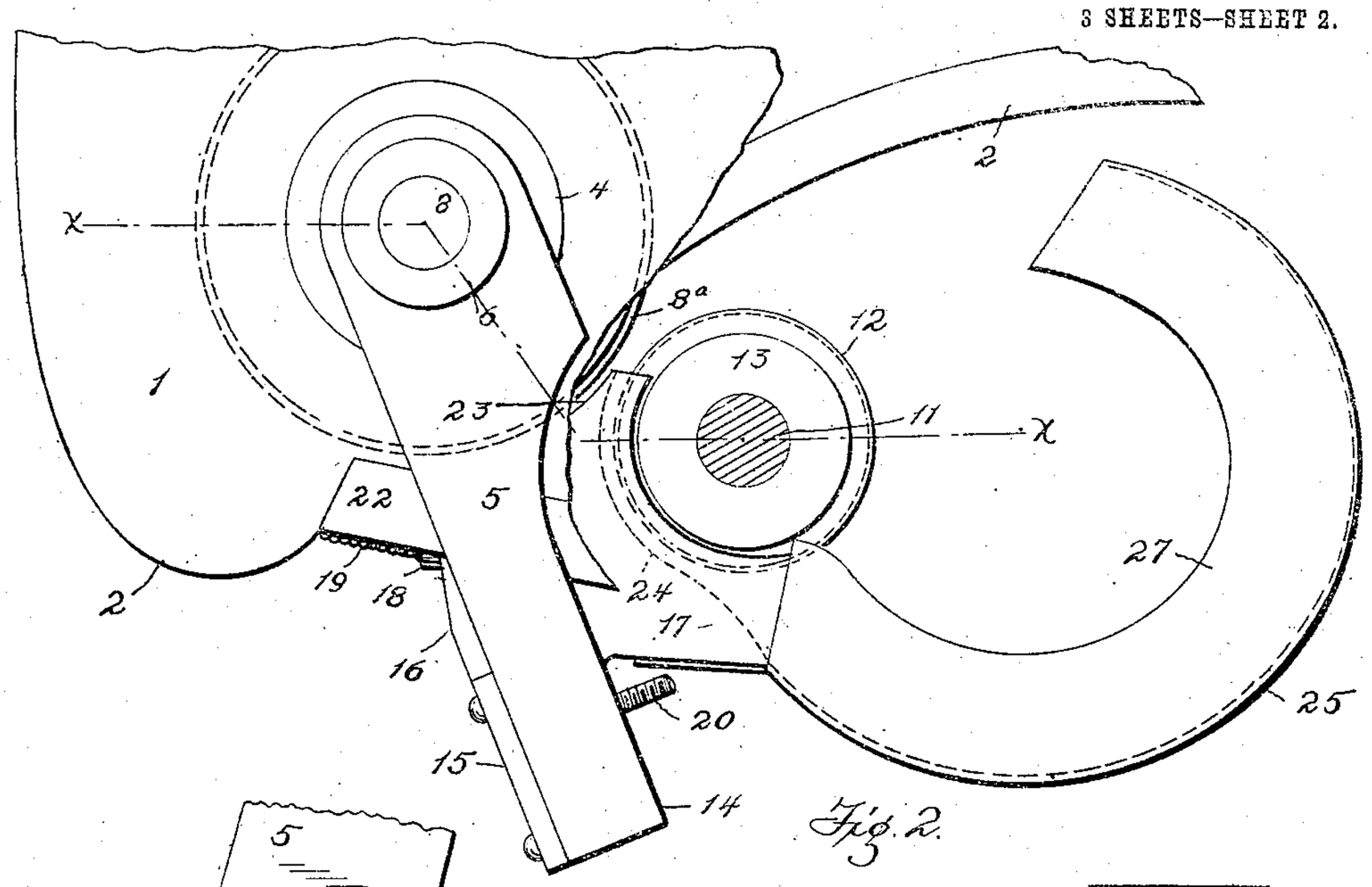

Fig. 2.

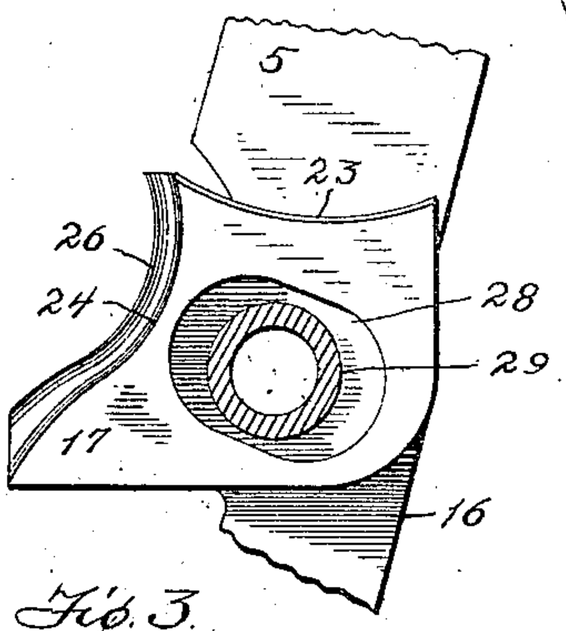

Fig. 3.

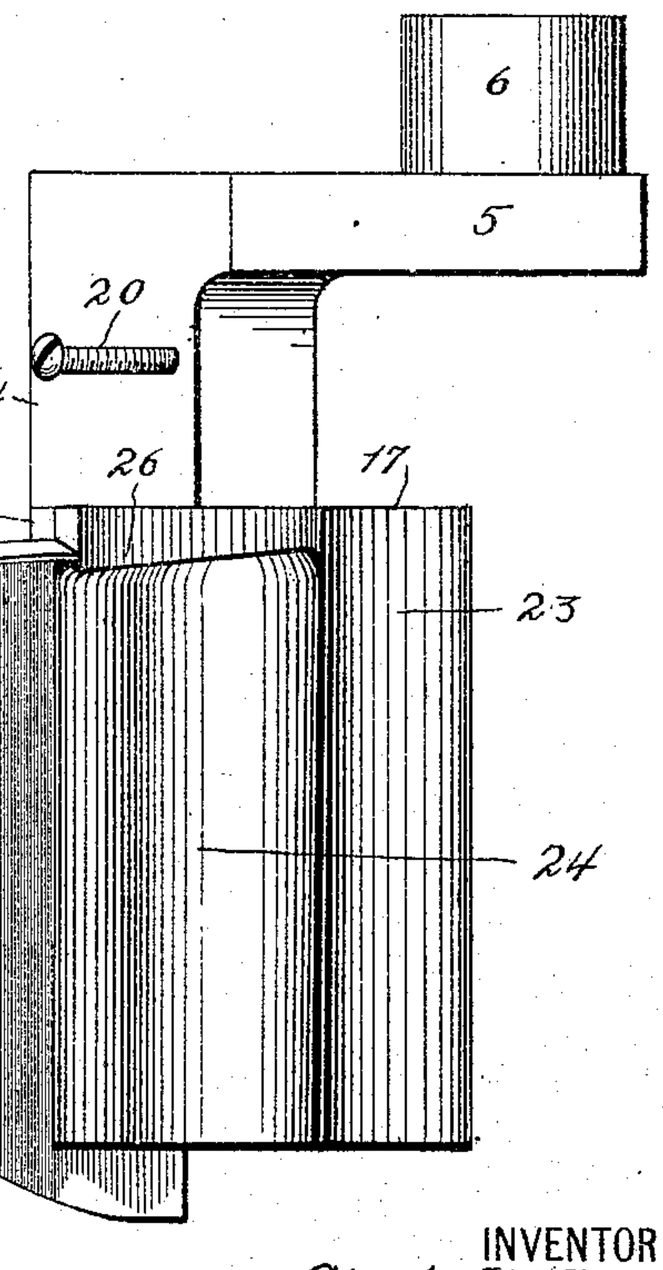

Fig. 4

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COLLAR SHAPING ATTACHMENT.

APPLICATION FILED JULY 7, 1904.

3 SHEETS—SHEET 3.

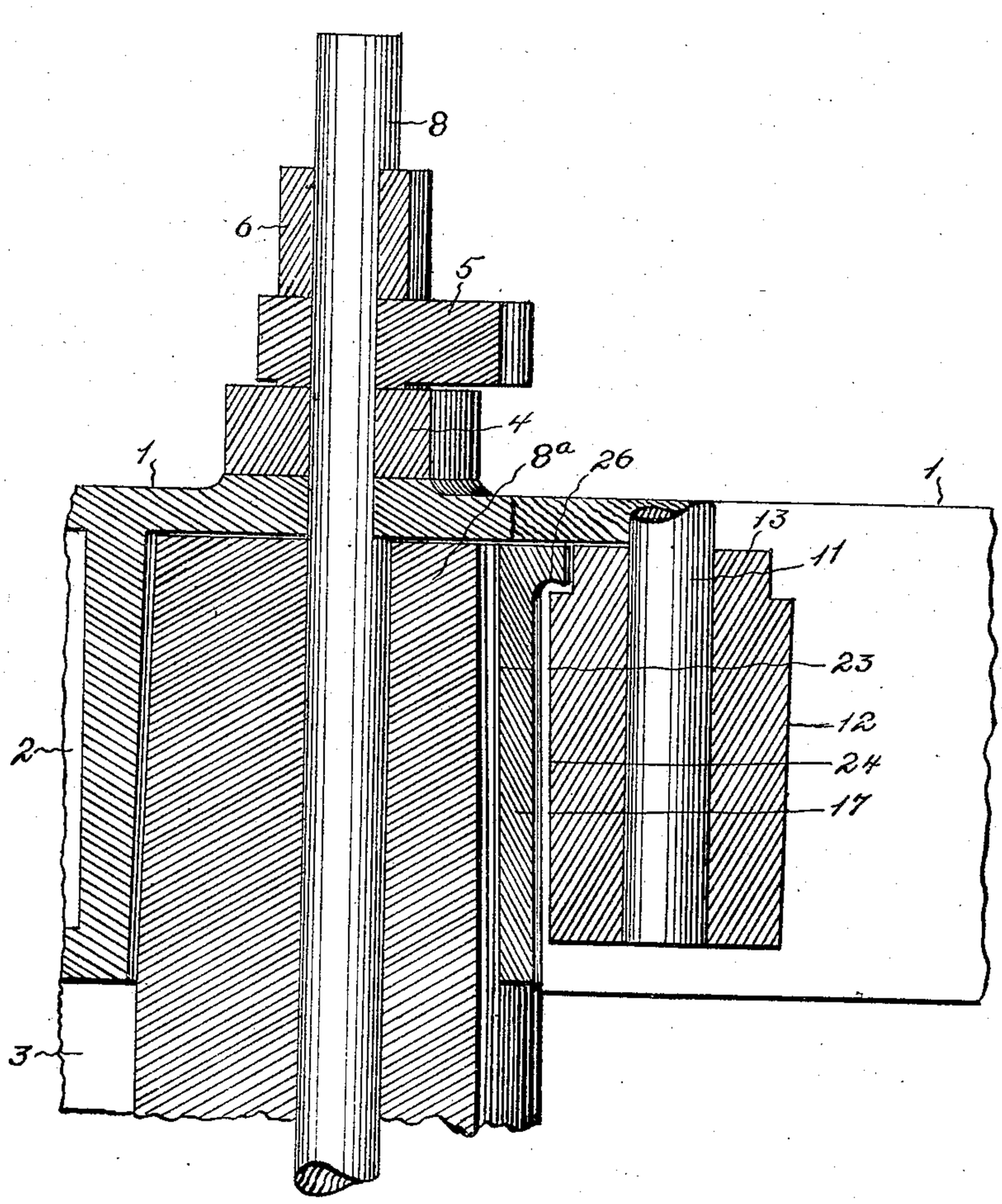

Fig. 5.

WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES W. CURRIER AND JOSEPH LEITSCHUH, OF COLUMBUS, OHIO, ASSIGNORS TO THE FEDERAL MANUFACTURING COMPANY, OF COLUMBUS, OHIO, A CORPORATION OF OHIO.

COLLAR-SHAPING ATTACHMENT.

No. 842,864. Specification of Letters Patent. Patented Feb. 5, 1907.

Application filed July 7, 1904. Serial No. 215,677.

To all whom it may concern:

Be it known that we, CHARLES W. CURRIER and JOSEPH LEITSCHUH, citizens of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a certain new and useful Improvement in Collar-Shaping Attachments, of which the following is a specification.

Our invention relates to a new and useful improvement in collar-shaping attachments.

The object of the invention is to provide an attachment which when used in connection with heated shaping-rollers will curl a collar to a suitable circular form.

Finally, the object of the invention is to provide a device of the character described that will be strong, durable, and efficient and one in which the several parts will not be liable to get out of working order.

With the above and other objects in view the invention consists of the novel details of construction and operation, a preferable embodiment of which is described in the specification and illustrated in the drawings, wherein—

Figure 1 is a partial end perspective of a collar-shaping machine, showing our attachment applied thereto. Fig. 2 is a plan view of the parts shown in Fig. 1, the top plate of the machine being broken away to illustrate more clearly the attachment. Fig. 3 is a bottom plan view of the shaping-block and its component parts. Fig. 4 is a detailed elevation of the attachment, and Fig. 5 is a vertical sectional view taken on the line *x x* of Fig. 2 and showing portions of the parts in elevation.

Our attachment is especially designed to be used in connection with our shaping-machine forming the subject-matter of a separate application filed July 7, 1904, and bearing Serial No. 215,675.

In order to more clearly illustrate and describe our improvement, we have shown the same in connection with a portion of the above-mentioned machine.

In the drawings the numeral 1 designates the top plate, while the numeral 2 indicates the heating-casing which is supported upon the standard 3. A bearing-boss 4 projects upwardly and supports the inner end of the arm 5, from which projects the collar 6, on which rests the gear 7. A shaft 8, passing through the gear and arm, penetrates the bearing-boss 4 and top plate 1 and has keyed on its lower end the conical roller 8^a, which terminates at its upper end flush with the under side of the top plate. Supported on the upper end of the elongated sleeve 9 is a pinion 10, which meshes with the gear 7. A shaft 11, passing through the pinion 10, sleeve 9, and top plate, carries on its lower and a downwardly-tapering roller 12. The roller 12 is formed with a contracted portion 13, which bears against the under side of the top plate 1. The rollers 8^a and 12 are tapered in opposite directions, so as to cause their walls to lie parallel to each other, and thus securely impinge the collar upon both sides and propel it forward. The arm 5 is formed at its outer end with a downwardly-extending lug 14, to which is secured the upwardly-extending plate 15 of the offset 16. The offset 16 preferably extends rearwardly parallel to the arm 5 and is formed integral with the shaping-block 17. The arm 5 is pivotally supported from the shaft 8, thus allowing the shaping-block 17 to swing. A stud 18, supporting one end of a coiled spring 19, which bears at its other end against the heating-casing 2, is secured to the side of the block, thus yieldably holding the block in position. The position of the block is regulated by means of an adjusting-screw 20, projecting from the opposite side of the lug 14 and abutting a stop-lug 21, which projects at an angle from the upwardly-extending lip 22 of the top plate 1.

The shaping-block 17 is formed with a curved face 23, which is inclined inwardly, so as to stand substantially parallel to the face of the tapered roller 8^a, but normally out of contact therewith. The shaping-face of the block is formed with a curved shaping-wall 24, which is inclined slightly outward, so as to conform to the face of the shaping-roller 12 and to guide the collar to the chute 25. The chute 25 is semicircular in form and is given a downward spiral twist, so as to carry the collar downward and deliver the same below the block. In order to guide the collar and start the same upon its downward course, the block 17 is formed with an overhanging concaved lip 26, conforming to the general contour of the shaping-wall 24. The lip 26 is inclined downwardly and terminates so as to

aline its concaved surface with the under surface of the guard-flange 27 of the chute 25. By yieldably and swingingly mounting the block it will be readily seen that the same is allowed a limited swinging movement for the purpose of accommodating collars of various thicknesses and preventing the collar from jambing between the wall 24 and the shaping-roller 12; also the block may be swung away from the roller 12 so that the parts may be cleaned and access thereto had. The adjusting-screw 20 prevents the block from swinging into contact with the face of the roller 12, and by adjusting the said screw the space between the said wall and the face of the said roller may be regulated. It is obvious that there must be a space between the roller and the wall; otherwise the collar would not enter therebetween.

The essence of the invention lies in the particular conformation of the wall 24 and the swinging mounting of the block, as the collar is shaped as it passes along said wall to the chute 25. While the chute 25 has a slight curling effect upon the collar, it is more especially designed as a guide and ejector for delivering the collar from the attachment.

In Fig. 3 we have shown the block 17 provided with an elongated recess 28, into which projects a steam-heating or gas pipe 29 for the purpose of heating the block, which under some conditions has been found to be advantageous.

The collar being guided along the curved wall of the heating-case 2 contacts with the roller 8^a and is propelled forward between the shaping-roller 12 and the wall 24 of the shaping-block 17. The roller 12, in conjunction with the lip 26, holds the collar in contact with the said wall, which as the same passes therealong curls and shapes the collar, the latter entering the chute 25 and being guided downward by the flange 27. The collar is ejected from the chute properly curled and shaped and ready for delivery to the wearer. Of course it is to be understood that the surfaces of the various parts with which the collar contacts are extremely smooth and highly polished and being associated so closely with heated parts are maintained in a more or less heated state, which greatly assists in the shaping and ironing of the collar.

Having now fully described our invention, what we claim, and desire to secure by Letters Patent, is—

1. The combination with a support and a shaping-roller, of a shaping-block having a curved face substantially conforming to the contour of the roller and mounted to swing from the support independently of the roller, and a curved guide-shoe supported from the block.

2. In a collar-shaping machine, the combination with a shaping-roller, of a shaping-block, and a guide curving spirally downward, said guide having an overhanging lip as and for the purpose set forth.

CHARLES W. CURRIER.
JOSEPH LEITSCHUH.

In presence of—
A. L. PHELPS,
W. L. MORROW.