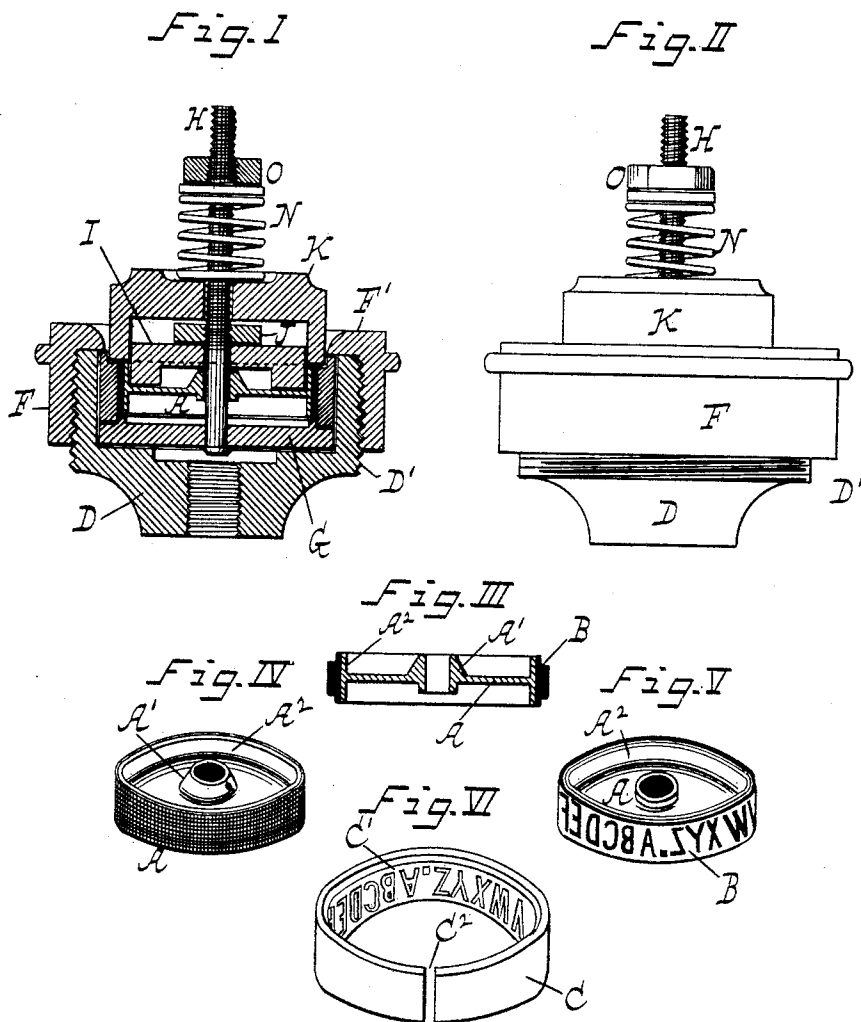


(No Model.)

A. WIRSCHING.
APPARATUS FOR CASTING TYPE WHEELS.

No. 582,801.

Patented May 18, 1897.



WITNESSES:

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APPARATUS FOR CASTING TYPE-WHEELS.

SPECIFICATION forming part of Letters Patent No. 582,801, dated May 18, 1897.

Application filed February 17, 1896. Serial No. 579,483. (No model.)

To all whom it may concern:

Be it known that I, ALOYS WIRSCHING, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Apparatus for Casting Type-Wheels, of which the following is a specification.

My invention relates to an apparatus for casting the peripheral face, as of india-rubber, upon the body, as of metal, of a type-wheel for use especially in printing-telegraph instruments. Prior to my invention this has been accomplished by the employment of a mold with a series of radial sections movable independently of each other to and from the type-wheel which is to be fitted between the inner ends of the assembled mold-sections. One of the objections to this method of casting is that by reason of the independent condition of the mold-sections it is generally difficult to effect a uniform adjustment of the series of sections in relation to the wheel, which adjustment is necessary to the production of a wheel with a true face. Another objection thereto is that, by reason of the comparatively large number of parts forming the mold the latter is not only costly in manufacture, but liable to get out of order, especially by the warping of the mold-sections when the mold is subjected to heat for vulcanizing the india-rubber constituting the wheel-face. These objections are overcome by one and the main feature of my invention, consisting in the employment of a ring-shaped die or mold with internal matrical cavities representing the characters to be cast on the wheel-face, the wheel, with its face fitted thereon, being in practice placed in this mold and the whole introduced into a flask or holder of certain novel construction for retaining the parts in symmetrical position during the process of vulcanizing the wheel-face, as will be hereinafter more fully described.

In the accompanying drawings, Figure I represents a diametric section of the mold-holder used in carrying out my invention. Fig. II represents a side view thereof. Fig. III represents a diametric section of the finished type-wheel. Fig. IV represents a perspective view of the wheel-body with a roughened surface. Fig. V represents a perspec-

tive view of the finished wheel. Fig. VI represents a perspective view of the ring-shaped mold.

Similar letters of reference indicate similar parts.

The letter A indicates the body of the type-wheel, comprising the usual disk or spider with an internal hub A' and an external rim A², the latter being the part of the wheel to receive and hold the peripheral type-face.

The letter C indicates the ring-shaped mold having the internal matrical cavities C', as shown in Fig. VI. The inner diameter of this mold C is slightly larger than the outer diameter of the type-wheel with its face, and in order to facilitate the introduction of the wheel into the mold I usually split the latter crosswise, as at C², thereby increasing its elasticity; but a good result may be obtained by leaving the mold solid or continuous.

Referring to Figs. I and II, the letter D indicates the main portion or body of the mold-holder, which is cup-shaped and has an external screw-thread D', onto which is fitted a screw-ring F, having an inwardly-projecting flange F' on its upper edge. On the bottom of the cup-shaped body D rests a base-plate G, from which projects upwardly a stem or spindle H, which is screw-threaded on its upper part and upon which are mounted in the order of their description the following elements, namely: a top-plate I, a jam-nut J, a clamping-hood K, a pressure-spring N, and an adjusting-nut O, each of these parts being removable from the stem, and the diameter of the stem being slightly less than the inner diameter of the wheel-hub A', so that the wheel may be readily mounted on the stem.

Now in carrying out my invention I remove the several parts of the mold-holder, except the base-plate G and its stem H, from the body D thereof. I then stretch a ring of raw or unvulcanized india-rubber having the proper thickness on the body of the type-wheel and fit the wheel thus equipped into the ring-shaped mold C. I then introduce the mold, with its inclosed wheel, into the body D of the holder by mounting the wheel on the screw-stem H, thus causing the mold to rest on the base-plate G. I then return the parts of the holder previously removed to their original and normal positions, which are as

follows: The top plate I is next above the type-wheel in the mold, but without affecting the latter. The jam-nut J is next above the top plate and acts thereon. The clamping-hood K is next above the jam-nut and acts partly on the mold and partly on the type-wheel therein, the mold being provided with a shoulder to receive the lower edge of the hood. The pressure-spring N acts on the clamping-hood to force it downward, while the adjusting-nut O acts on the pressure-spring for regulating its tension. The screw-ring F acts, by means of its flange F', on that portion of the mold exterior of its shoulder last referred to, all of which will be more readily understood by reference to Fig. I of the drawings. After the parts have been assembled, as above described, the ring of rubber receives the configurations from the ring-shaped mold bearing the matrical cavities, being cut therein by screw-pressure exerted on the parts by reason of the inturning of the above-mentioned screw members. The mold-holder is now subjected to the action of heat of a proper degree to effect the vulcanization of the india-rubber ring, which then constitutes the face B of the type-wheel.

In order to remove the mold and wheel from the holder, it is only necessary to detach the removable parts of the holder.

It will be apparent that by the employment of a ring-shaped mold, as C, instead of one made in sections, the mold is comparatively cheap in manufacture and least liable to get

out of order, if at all, while it has the additional advantage of insuring a true and accurate wheel-face, since the ring-shaped mold acts on the face uniformly at every point.

The roughened surface of the wheel-body A (shown in Fig. IV) is usually produced by securing thereto a film of wire-gauze, and it is evident that the wheel thus affords a superior hold to the india-rubber face upon the body.

When the ring-shaped mold C is left solid, instead of being split, as in Fig. VI, it may be broken away from the wheel after it has performed its office of casting the wheel-face.

What I claim as my invention, and desire to secure by Letters Patent, is—

A holder for a ring-shaped mold to be used in casting the face upon the body of a type-wheel, consisting of the following elements: the cup-shaped body, the flanged screw-ring thereon, the face-plate on the bottom of the said body, with an upwardly-projecting screw-threaded stem, in combination with the top plate, jam-nut, clamping-hood, pressure-spring, and adjusting-nut, severally mounted on the stem, and the ring-shaped mold with internal matrical cavities, that is adapted to receive a type-wheel with its face, the whole adapted for use as herein described.

ALOYS WIRSCHING.

Witnesses:

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