(Model.)

C. F. MORRILL & D. C. PERCIVAL.

WATCH CASE.

No. 384,380. Patented June 12, 1888.

Fig. 4.

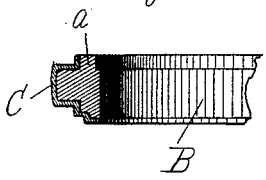


Fig. 5.

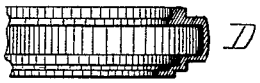


Fig. 2.

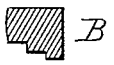


Fig. 3.

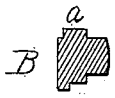
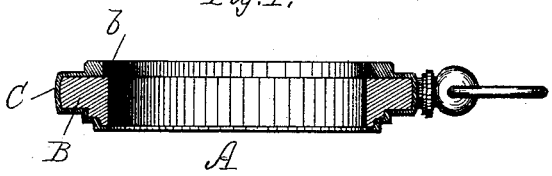


Fig. 1.



Witnesses.
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E. K. Boynton

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F. Curtis, Atty.

UNITED STATES PATENT OFFICE.

CHARLES FRANKLIN MORRILL AND DAVID CROWELL PERCIVAL, OF BOSTON, MASSACHUSETTS.

WATCH-CASE.

SPECIFICATION forming part of Letters Patent No. 384,380, dated June 12, 1888.

Application filed November 17, 1885. Serial No. 183,118. (Model.)

To all whom it may concern:

Be it known that we, CHARLES FRANKLIN MORRILL and DAVID CROWELL PERCIVAL, both citizens of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in the Manufacture of Watch-Case Centers; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to the manufacture of watch-cases; and it consists in the construction and combination of metals composing the "center," so called.

The essential and distinguishing feature embodied in our improvements is making a center which shall be a solid annular ring plano-convex in cross-section, in lieu of being formed of a thin metal shell in general cross-section concavo-convex and composed entirely of some high-grade metal. The object sought to be attained by this feature is to enable a heavy, strong, and durable case-center to be made without the necessary attendant high cost usually incurred in the old form of construction; hence we form a compound center, which consists of a core composed of some inferior or base metal, while the exterior is to be made, as usual, from a high-grade metal, such as gold or silver, or some form of more valuable metal.

In the drawings accompanying this specification, Figure 1 represents a diametrical cross-section of a watch-case center embodying our invention, while Figs. 2 and 3 are cross-sections of the base-metal core; and Fig. 4 shows the same core with the fine grade metallic plate covering it. Fig. 5 is a partial cross-section of a center constructed in the manner as heretofore practiced.

In said drawings, A represents the center as an entirety, and is shown as compound or composed of an inner piece or core, B, of base metal, or, in any event, of lower-grade metal than that from which the outer shell or covering, C, is constructed.

Hitherto in the construction of watch-case centers a metal blank is struck up or compressed about a sectional matrix or core, which is adapted to be taken out after the center has been perfectly formed thereabout. Thus it will be seen that, after removal of the matrix, an annular ring, D, of high-grade material remains, technically termed a "center," and in general cross-section concavo-convex. (See Fig. 5.)

In order to obtain a heavy case with a center thus formed, it has generally been necessary to increase the thickness of the plate from which the center is struck up, and hence undue increased cost in the manufacture. To overcome this objection, we propose to turn out a solid integral core, B, of the exact shape and contour as will be required of the finished center, but slightly smaller. This core, properly secured, then forms a matrix about which is compressed and shaped thereon a thin fine-grade metallic blank, C. Now, in lieu of removing said matrix, we propose to continue it in place, and since it is entire it cannot be removed, but becomes an integral part of the center.

From the construction as herein premised it will be readily understood that the exterior covering may be made of very much thinner material than is customarily employed, since it is in our invention perfectly backed and supported by the inner core of base metal. Moreover, by the introduction and retention of this base-metal core B, the weight and strength of the case as an entirety may easily be increased with no material increase in the cost—a very important feature in the manufacture of watch-cases.

In Fig. 4 it will be seen that the core B of base metal is an exact counterpart of the outside shell or center, and is provided with an annular lip, *a*, against and upon which the "bezel" is formed. On the other hand, in Fig. 2 we have shown a core modified slightly in form without the bezel-lip, in which event the bezel upon the high-grade metal portion or shell C is struck up by a subsequent process.

In Fig. 1 the matrix or core is shown with the exterior fine metal compressed thereabout, while said core B is made to project slightly

within the bezel-lip, as shown at *b*. Thus an annular shoulder is formed at no expense upon which to rest the movement when introduced within the center.

Thus we are enabled to make by the process herein described a very heavy and strong case with a minimum amount of fine grade metal; hence less cost. Moreover, by the use of the solid core a dust-proof case is secured, and by the employment of base metals or compounds of varying specific gravity the outer shell may be always composed of a very thin plate, without the attendant expense in using a thick plate when a heavy case is required.

We claim—

In a watch-case center, the combination, with the relatively base-metal core or ring, of a separate external covering inclosing the front, back, and side of said core, the said core having a movement-supporting ledge or shoulder projecting inward beyond the outer covering, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

CHARLES FRANKLIN MORRILL.
DAVID CROWELL PERCIVAL.

Witnesses:
H. E. LODGE,
E. K. BOYNTON.