

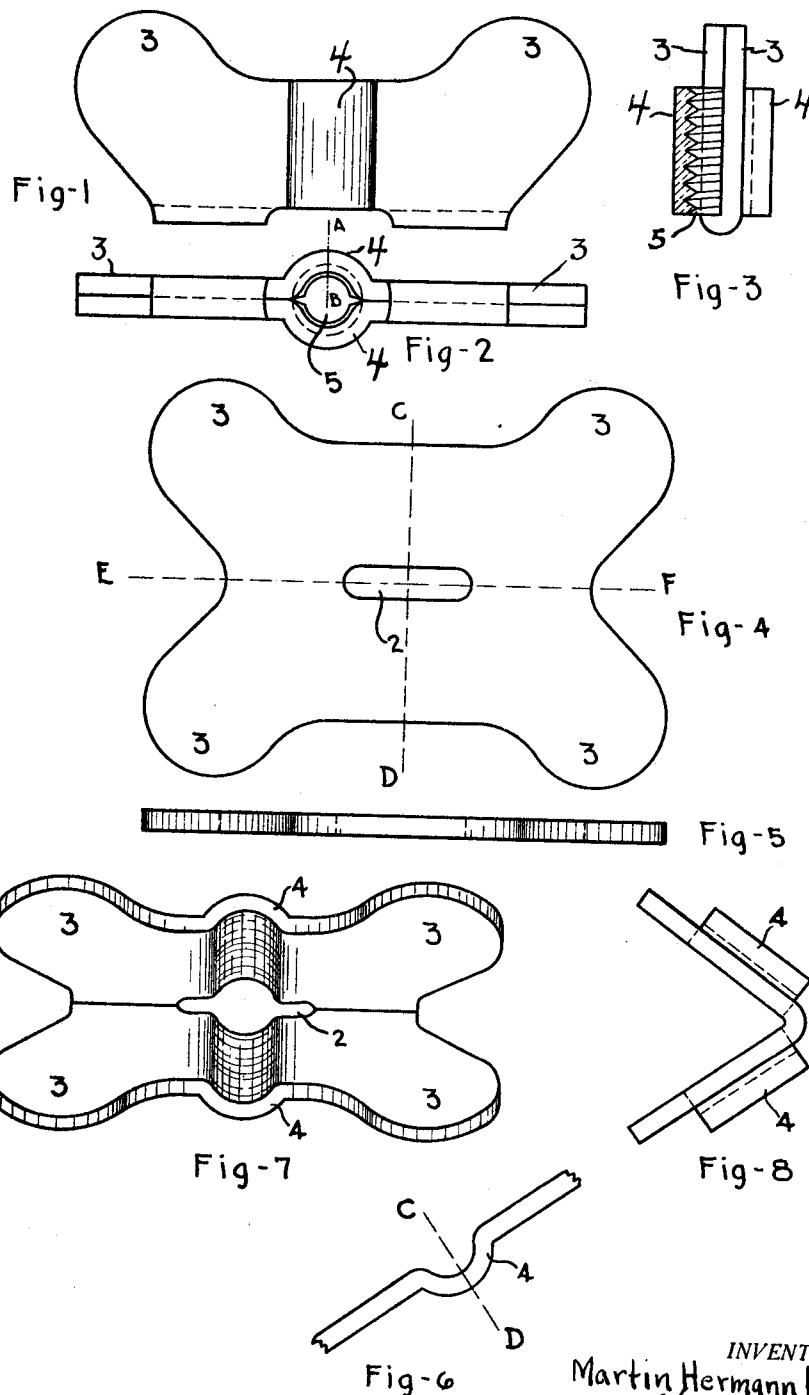
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PROCESS FOR PRODUCING WINDING KEYS

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PROCESS FOR PRODUCING WINDING KEYS

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My invention relates to clock winding keys and has for its object the production of a key that is formed up from sheet metal by first punching out a suitably shaped piece with an elongated aperture from said sheet of metal and then forming a semi-tubular part at right angles to the longer side of said aperture in said suitably shaped piece of metal and then bending the two parts thereof over on each other on a line central to the length of said aperture at the same time having a suitable mandrel projecting through said semi-tubular aperture so that a tubular aperture is completely formed in prolongation of the original aperture formed in said suitably shaped piece of sheet metal and then forming screw threads in said formed tubular aperture through the means of which said resultantly and integrally formed key may be mounted on the winding shaft.

A further object of my invention is the production of a winding key that is extremely light in weight, very rigid for its weight and very inexpensive to produce, which is to be used in connection with the production of high quality clocks and articles to be sold at very low prices.

I attain these objects by the means shown in the accompanying drawings in which:

Fig. 1 shows a side view of my winding key.

Fig. 2 shows a bottom view of my winding key.

Fig. 3 shows a side view of my winding key having a part in section along a line AB of Figure 2.

Fig. 4 is a top view of the shaped piece or blank of sheet metal out of which my winding key is formed.

Fig. 5 is a front view of Figure 4.

Fig. 6 is a partial front view of Figure 5 after the semi-tubular part is formed along the line CD of Figure 4, at right angles to the elongated aperture therein.

Fig. 7 is a top view of my winding key in the process of manufacture in forming it and closing it together representing the operation approximately one-half completed.

Fig. 8 is a side view of the key formed up as shown in Figure 7.

Similar parts are shown by the same numerals throughout the several views.

In the drawings 1 (see Figure 4) represents the blank or part cut out of the metal sheet or strip which is ready for the forming and swedging operations required to make the completed key. 2 is an elongated aperture centrally located and shaped as shown in said blank 1. 3 represents a plurality of ears or lugs on said blank 1 which when finally associated with each other form the wings of the winding key (see Figure 1). Along the line of the axis CD of the blank 1 shown in Figure 4 is swedged and formed a semi-tubular part 4 (see Figs. 6, 7, and 8) on each of the parts of blank 1 lying on each side of the line EF. After the semi-tubular parts 4 are thus formed the parts 3 are formed over on each other the blank 1 being bent at and along the line EF which coincides with the longer axis of the elongated aperture 2 in said blank 1. Figures 7 and 8 show the bending over operation partially performed and Figures 1, 2 and 3 show this bending over operation as finally completed. When thus completed it will be seen that the ears 3 are associated with each other to form the wings of the winding key and the semi-tubular parts are associated to form the tube or cylindrical part having the aperture 5 which may be considered as an extension of the aperture 2 above mentioned. Aperture 5 has the threads shown formed on its inner walls, by means of which my winding key can be mounted on the spring winding shaft to be actuated by the said winding key. While I have mentioned sheet metal as forming the basis of my winding key, it is evident that I can use any other suitable material in place of metal.

From the above description it will be seen that my winding key is formed from a single piece of sheet metal, requiring a minimum amount of weight of metal, the several parts thereof of which are formed up from the metal thoroughly increasing its rigidity

and by forming over these several parts and further re-enforced so that the sheet metal can really be very thin and yet so associated in its several integral elemental parts to form an extremely rigid winding key.

5 It will be understood of course that while I have here shown one of my winding keys, I do not wish to limit myself to the exact construction shown, but desire to have it taken in a sense illustrative of any and all
10 the forms of same that come fairly within the scope of my claims.

I claim:

1. The process of producing a winding
15 key comprising taking a piece of sheet material having an elongated aperture and two pairs of projections on its periphery, forming a semi-tubular part adjacent to and on opposite sides of said aperture so that the
20 two semi-tubular parts are in alignment, bending the sheet material along the axis of said aperture to bring the two semi-tubular parts together to form a tubular portion, and forming threads in said tubular portion.

2. The process of producing a winding
25 key comprising taking a piece of sheet material having an aperture and a plurality of projections on its periphery, forming a semi-tubular part adjacent to and on opposite sides of said aperture so that the two
30 semi-tubular parts are in alignment, bending the sheet material along a line centrally deposited to said aperture and said projections to bring the two semi-tubular parts
35 together to form a tubular portion, and forming threads in said tubular portion.

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