J. BOSS.

Manufacture of Watch Cases.

No. 23,820. Patented May 3, 1859.

Fig. 3.

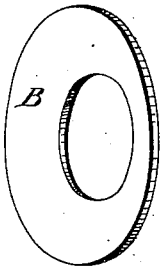


Fig. 4.

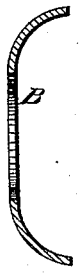


Fig. 5.

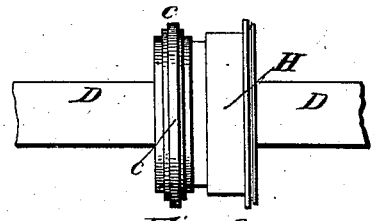


Fig. 1.

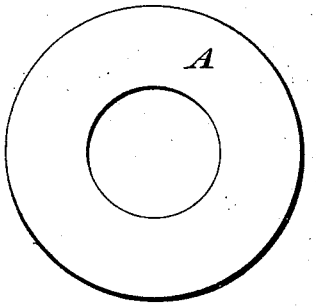


Fig. 2.

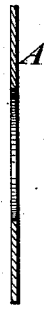


Fig. 6.

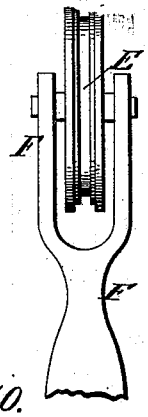


Fig. 7.

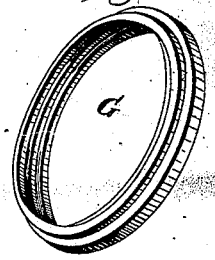


Fig. 8.

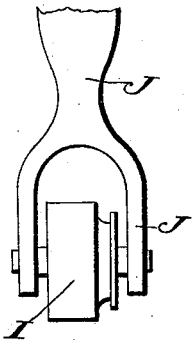


Fig. 10.

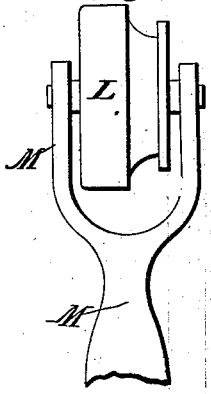
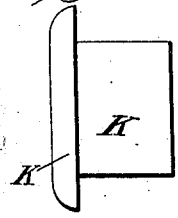


Fig. 9.



Witnesses:
Mott Kenny
Alfred D. Buck.

Inventor.
James Boss.

UNITED STATES PATENT OFFICE.

JAMES BOSS, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN THE MANUFACTURE OF WATCH-CASES.

Specification forming part of Letters Patent No. **23,820**, dated May 3, 1859.

To all whom it may concern:

Be it known that I, JAMES BOSS, of Philadelphia, in the county of Philadelphia, in the State of Pennsylvania, have invented a new and Improved Mode of Constructing Watch-Cases; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in the application of the well-known operation of spinning up sheet metal for the purpose of manufacturing watch-cases by the employment of a mandrel and spinning-wheels, instead of the usual laborious and costly method of turning them out of the solid material.

By this invention in the introduction of mandrel and spinning-wheels for spinning up sheet metal in the manufacturing of watch-cases, I am enabled to produce a planished plated sheet-metal watch-case more durable and beautiful and comparatively less expensive than the manufacture of galvanized and turned watch-cases heretofore made.

Before my invention the galvanized watch-cases were first turned into form by the means of cutting-tools and afterward galvanized. This process was expensive, and both the body of the case and the galvanizing were not as solid nor as durable as the watch-case of my manufacture. I spin up the case into form with the plating previously fixed to the body of the case, the body and plating having been first rolled out solidly into the sheets of proper thickness, from which the metal is cut of a proper size. By thus spinning up of the plated metal a case is formed with a planished close texture, which is more durable and less expensive in proportion to its utility than the old manufacture of galvanized and turned watch-cases.

The manner of conducting the plating of the metal is as follows: I take a bar of any kind of composition metal—say one-half inch thick—and then placing plates of gold, silver, or any kind of metal whatsoever on one or both sides of the bar to be plated upon and fastened by the means of sweating or soldering by applying it to a certain temperature of heat, after which it is then rolled out to a proper thickness suitable for the spinning up or making of the case. The labor in spinning up of this sheet metal into a case by my invention is so little that the plating is never removed a particle, showing the most economical process in plating known in the manufacture of watch-cases.

There is another important feature in this process of plating by my invention, which is that the plating adheres much better to the metal and is not liable to rub off of the case by attrition from constant use, which is invariably the fault of all watch-cases plated or galvanized by the present method of turning them out or finishing them up from the solid stuff.

To enable others skilled in the manufacturing watch-cases to make and use my invention, I will proceed to describe its construction, &c., reference being had by letters to the drawings forming part of this specification.

In Figure 1, A shows the sheet-plate. In Fig. 2, A shows the same in section. In Fig. 3, B shows in perspective the same turned up. In Fig. 4, B shows same in section. In Fig. 5, D shows the mandrel on which the centers and bezels of case are formed; C, center form; H, bezel form. In Fig. 6, E shows the spinning-wheel for center, and F the handle. In Fig. 7, G shows in perspective the center of case finished. In Fig. 8, I shows the spinning-wheel for bezel, and J the handle. In Fig. 9, K shows the lathe-chuck for backs of case. In Fig. 10, L shows the spinning-wheel for backs, and M the handle.

In the several views similar letters represent like parts.

From sheet metal of the proper thickness is cut the ring A, which is turned up by a common tool into the form shown at B. It is then slipped over the mandrel D onto the form C. The spinning-wheel E, pivoted in the stock F, is now brought to bear upon the mandrel, the ring B being interposed, and by a few revolutions of the lathe-wheel it is caused to assume the desired form, as seen in the sketch at G, which is the center of watch-case finished.

The backs and bezels of cases are to be made in the same manner as above described. The mandrel on which the bezel is spun is in one with that of the mandrel forming center

of case, as seen in drawings, letters H I, the spinning-wheel of bezel being of course compatible with the shape to be formed.

Be it here understood that by my invention of the mandrel and spinning-wheels for spinning up sheet metal for the purpose of manufacturing watch-cases it is more particularly applied to plated cases—that is, those made of plated sheet metal, substantially as above described. Be it also understood that each section of these cases made by my invention is formed entirely of one solid piece of sheet metal, forming a complete watch-case, without the use of solder or any kind of metal to connect them together, except the bearing for the movement in the center, as is the case of all watch-cases turned from the solid material.

I do not claim as new the process of plating metal as herein described, for I am aware that has been done before; but

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

1. Spinning up of watch-cases by the employment of a mandrel and spinning-wheels constructed to operate in the manner substantially as set forth.

2. Spun plated sheet-metal watch-case constructed as herein specified.

In testimony whereof I have hereunto set my hand and seal this the 7th day of April, A. D. 1859.

JAMES BOSS. [L. S.]

Witnesses:

JNO. B. KENNEY,

ALFRED D. BRICK.