(No Model.)

H. BOUCK & J. H. LOVENDALE.

BALANCE WHEEL.

No. 486,754. Patented Nov. 22, 1892.

Fig. 1.

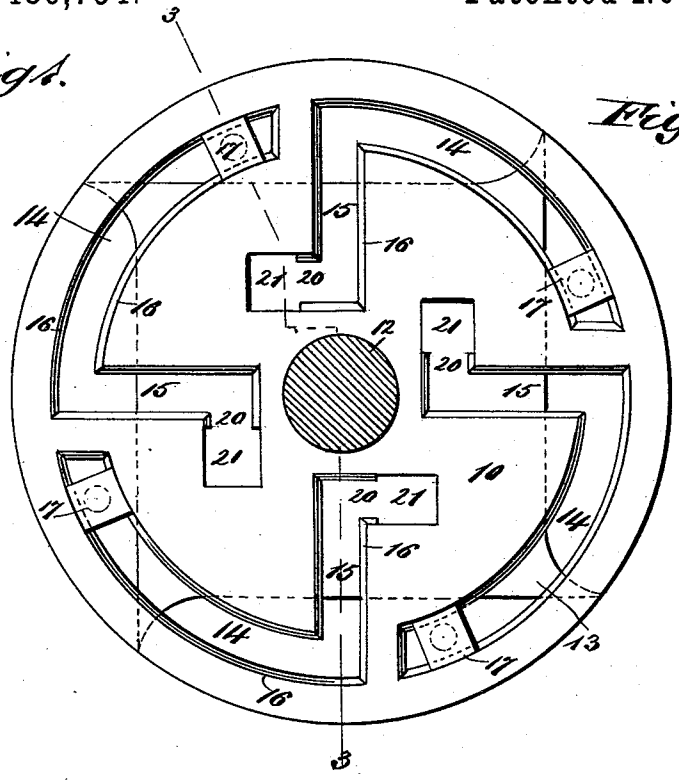


Fig. 3.

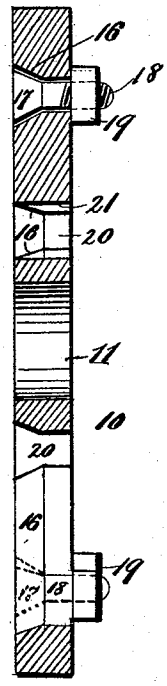
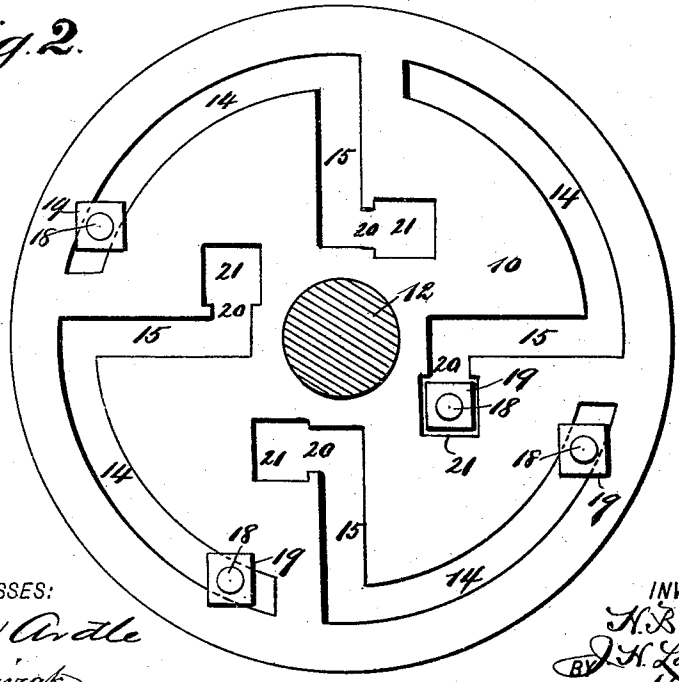


Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

HIRAM BOUCK AND JULIUS H. LOVENDALE, OF SALT LAKE CITY, UTAH TERRITORY.

BALANCE-WHEEL.

SPECIFICATION forming part of Letters Patent No. 486,754, dated November 22, 1892.

Application filed August 5, 1892. Serial No. 442,219. (No model.)

To all whom it may concern:

Be it known that we, HIRAM BOUCK and JULIUS H. LOVENDALE, both of Salt Lake City, in the county of Salt Lake and Territory of Utah, have invented new and useful Improvements in Balance-Wheels, of which the following is a full, clear, and exact description.

Our invention relates to improvements in balance-wheels or collars, and especially such as are adapted for use in connection with shapers or stickers.

The object of our invention is to produce a simple balance-wheel which may be easily and instantly adjusted without removing it from the shaft, so that its weight will effect a perfect balance of the shaft, or, in other words, so that its weight may be adjusted and made to come more or less on one side of the center, as desired.

To this end our invention consists in certain features of construction and combinations of the same, as will be described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the balance-wheel as applied to a sticker, the supporting spindle or arbor being shown in section and the sticker or cutter-head being shown in dotted lines. Fig. 2 is a similar view, but showing the other side of the balance-wheel; and Fig. 3 is a central section on the line 3 3 in Fig. 1.

The balance-wheel 10 is provided with a central bore 11 to receive the arbor 12, and this arbor carries also a sticker or cutter-head 13 of the usual form, which is shown by dotted lines in Fig. 1. The collar or balance-wheel 10 is secured to the arbor at one end of the cutter-head, and it will thus serve the purpose of balancing the arbor, and it will also serve as a guard to prevent the hands of an operator from coming in contact with the cutter.

The balance-wheel is provided with segmental slots 14, which are arranged near and parallel with the circumference of the wheel, each slot extending nearly a quarter way round the wheel, and each slot terminates at one end in a branch slot 15, which extends radially inward. The slots 14 and 15 have their edges beveled on one side, as shown at 16, so that the heads 17 of the screws 18 may fit snugly in the slots and be flush with the side surface of the wheel. The screws 18 extend through the slots in the balance-wheel and they carry at their smaller ends nuts 19, by which they are held in place. Opening from the end of the slots 15 are lateral passages 20, which lead to hole 21 extending through the wall of the balance-wheel, these holes being of sufficient size to permit the screws 18 and nuts 19 to be passed readily through them. In practice, the screws 18 and nuts 19 are made sufficiently heavy to serve the purpose of regulating the balance of the wheel, and the nuts may be made to weigh several ounces each. The screws are adjusted in the slots 14 and 15 by pushing them through the holes 21, and then sliding them into the slots, and when in use they are adjusted in the slots 14, the screws being so placed that they will cause the wheel to be perfectly balanced, and they are held in place by tightening the nuts 19. If, however, the nuts should get loose, the screws would not be seriously displaced, as they would be held in position by the centrifugal force of the wheel. When the screws and nuts are not in use for balancing the wheel, they may be pushed into the inner ends of the slots 15 and fastened there, and they may also be fastened in the slots 15, if for any reason it is necessary to bring them near the center of the wheel.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. A balance-wheel having radial and circumferential slots therein, screws secured in the slots, and nuts for the ends of the screws, substantially as described.

2. A balance-wheel having connected circumferential and radial slots therein, holes extending through the wall of the wheel and connected with the slots, and screws and nuts adapted to enter the holes and to be fastened in the several slots, substantially as described.

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Witnesses:
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