A. BERNSTEIN.

COIN-COUNTERS.

No. 183,833. Patented Oct. 31, 1876.

Fig: 1.

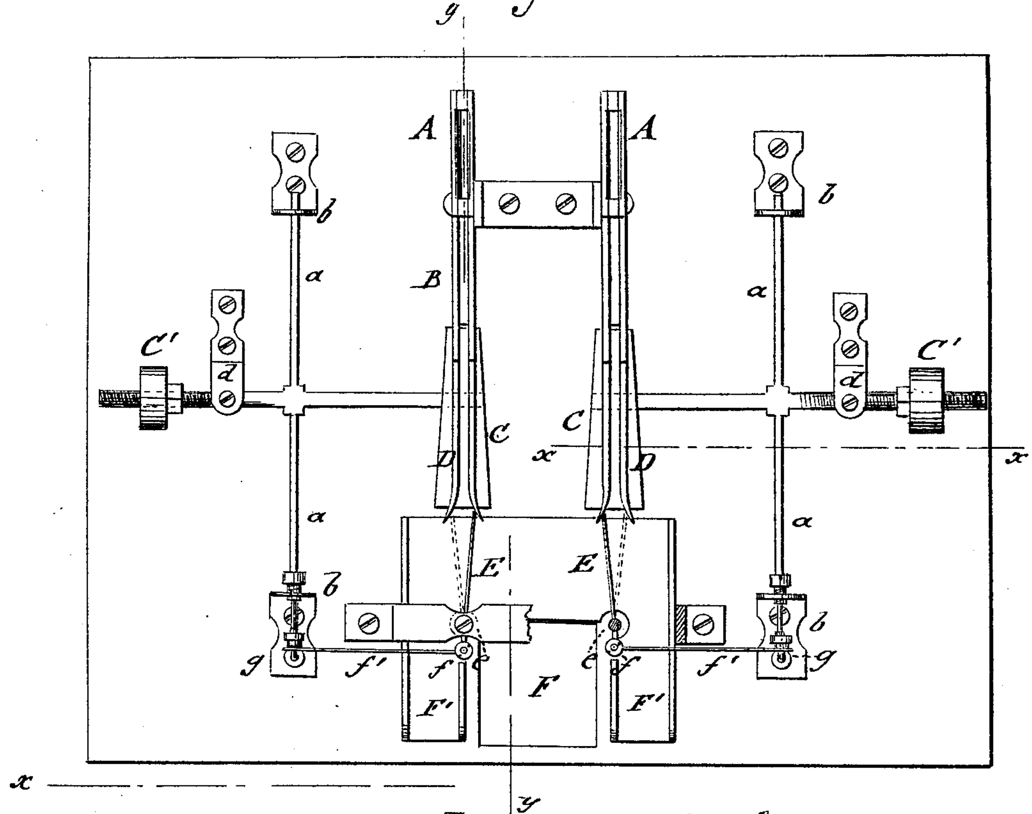


Fig: 2.

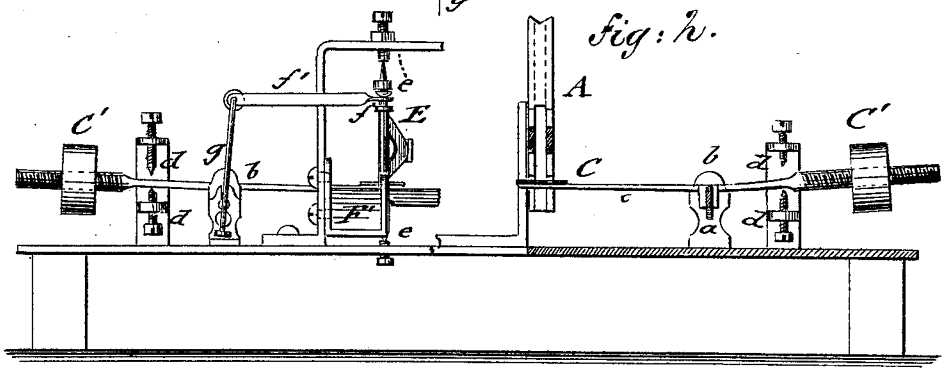
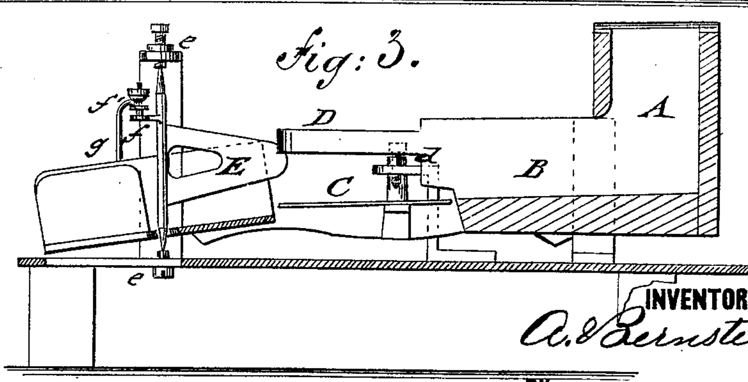


Fig: 3.



WITNESSES:

Chas. Nida.

John Goethals

INVENTOR:

A. Bernstein

BY

Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

ARON BERNSTEIN, OF BERLIN, PRUSSIA.

IMPROVEMENT IN COIN-COUNTERS.

Specification forming part of Letters Patent No. **183,833**, dated October 31, 1876; application filed September 9, 1876.

To all whom it may concern:

Be it known that I, ARON BERNSTEIN, of Berlin, Prussia, in the Empire of Germany, have invented a new and useful Improvement on Apparatus for Separating False and Light Gold Coins, of which the following is a specification:

This apparatus has for its object to provide the public with a simple and convenient means of testing, in quick and automatic manner, the genuineness and correct weight of every gold coin received, without having recourse to gold-scales, which occasion loss of time and disclose a feeling of distrust toward customers and others, and are, for this reason, but little employed in ordinary business.

The apparatus furnishes a reliable means to instantly detect any false or light gold coin without showing the mode or mechanism by which the same is tested, so that thereby the business man is protected against losses arising from this source.

This object is obtained in the present apparatus by allowing the gold coin to fall through a narrow opening and guide-channel onto a balance or tilter, from which it will, if genuine and of full weight, roll at once, by suitable deviating mechanism, into the cash box or receptacle; but if it is not genuine, or of short weight, it is conducted into a separate open receptacle, so as to indicate directly the lack of genuineness or full weight.

The apparatus may be arranged for gold coins of one, two, or more different denominations—as, for instance, for ten and five dollar gold pieces, or to English, French, or German coins, the apparatus being readily adapted and adjusted for either monetary mint.

As the parts of the apparatus adapted for smaller or larger coins are similar to each other, differing merely slightly in dimensions, it is only necessary to describe one part of the apparatus, the others being more or less identical in construction.

In the accompanying drawing, Figure 1 represents a top view, and Figs. 2 and 3 are vertical longitudinal and transverse sections, respectively, on line *x x* and *y y*, Fig. 1, of my improved apparatus for separating and detecting false and light gold coins.

Similar letters of reference indicate corresponding parts.

In the drawing, A A are two or more narrow openings or slots, that are preferably arranged in the counter, table, or other article, below which the apparatus is disposed for the purpose of being out of sight. The openings A are of such width and length as to correspond exactly to the thickness and diameter of the different gold coins in use. The gold coin is dropped through the opening A, and passed along a vertical guide-channel onto an inclined plane, B, along which it will roll, between guide-arms D, to a balanced plate or piece of metal, C. This plate C forms part of a balance, which is, however, not hung steadily and evenly, as usual in balances, but which is supported by a cross-lever, *a*, in uneven manner, so that the center of gravity is situated higher than the two hypomochlions *b* of the cross-lever. This balance may therefore more properly be called a "tilter." On the arm opposite the plate C is placed a weight, C′, that is adjustable on the threaded arm to such a nicety that a gold coin of proper weight, when it rolls over the plate C, is enabled to depress the tilter; but, on the other hand, a gold coin of too light weight, or a false coin of another metal with less specific gravity, would pass over the tilter without operating the same.

Any other false coin—for instance, one of an alloy of lead—having the correct weight would of necessity be of greater size than the opening A, and be thus detected even before being passed into the apparatus.

The required movement of the tilter is adjusted between set-screws *d*, that bear on the main lever of the same. The coin passes over the tilting plate C, between the guide-arms D, which are curved outwardly at the ends to a vane or wing-plate, E, that swings on a vertical pivot-rod on top and bottom bearings *e*, adjustable by screws. The vertical pivot-rod of the vane E is provided with a crank-pin, *f*, that is connected by a lever-rod, *f′*, with an upright arm, *g*, that is fastened to the cross-lever or axis *a* of the tilter, so as to produce the swinging of the vane when the plate C is depressed by the passage of a full-weighted coin. A light or false coin will not operate the tilter

and vane, and therefore leaves the vane in the position shown in full lines in Fig. 1. A full-weighted coin depresses the tilter and swings the vane into the position shown in dotted lines in Fig. 1, passing along the vane, and dropping directly into the cash box or receptacle F. A light or false coin does not move the vane from its normal position, and is therefore conducted along the same, over an inclined spout, F, to a suitable receptacle for false coins, which receptacle is preferably open, so as to indicate instantly the presence of a defective coin, and admit of its being taken out and handed back to the party that presented it for payment.

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

1. An apparatus for separating and detecting light and false gold coins, consisting, mainly, of conducting-channels, a tilting mechanism, and a swinging vane or wing operated thereby, and exit spouts, substantially in the manner and for the purpose set forth.

2. The combination, with the drop-opening A and guide-channels B D, of an adjustable balance or tilter that is only depressed by a coin of full weight, substantially as described.

3. The combination, with a tilting balance, of a swinging vane that is operated by the depression of the tilter by the gold coin, substantially as set forth.

4. The combination of the fulcrum-lever *a* of the tilter with arm *g*, lever-rod *f'*, crank-pin *f*, and vertically-pivoted vane E, substantially as described.

5. The guide-arms D, having curved outer ends, in combination with the vane E, swinging against either end, to conduct the coin without obstruction to the proper receptacle, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ARON BERNSTEIN.

Witnesses:

BERTHOLD ROI,

EDWARD P. MACLEAN.