Nov. 3, 1936. F. E. BACKER ET AL 2,059,197

COUNTERFEIT PAPER MONEY DETECTOR

Filed May 17, 1935

Fig. 1.

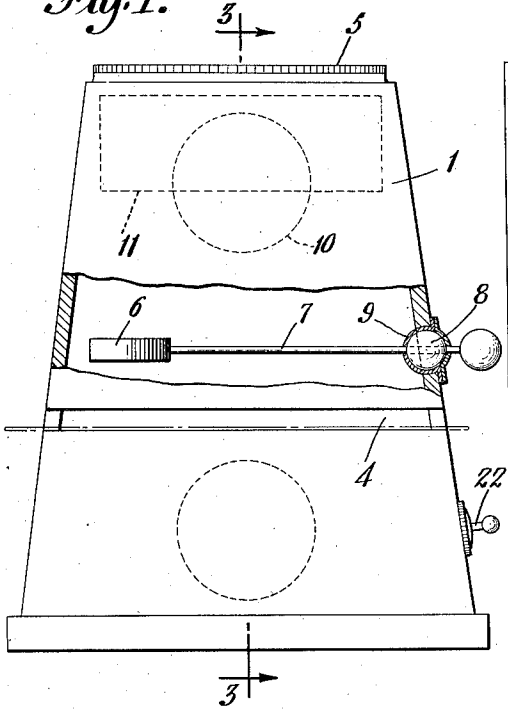


Fig. 2.

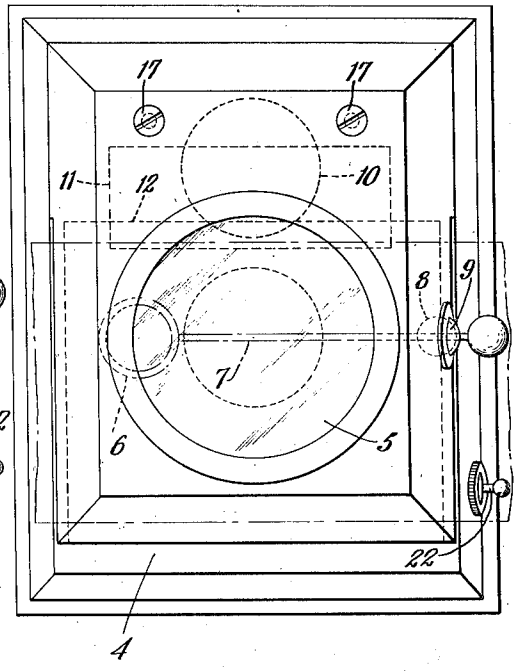


Fig. 3.

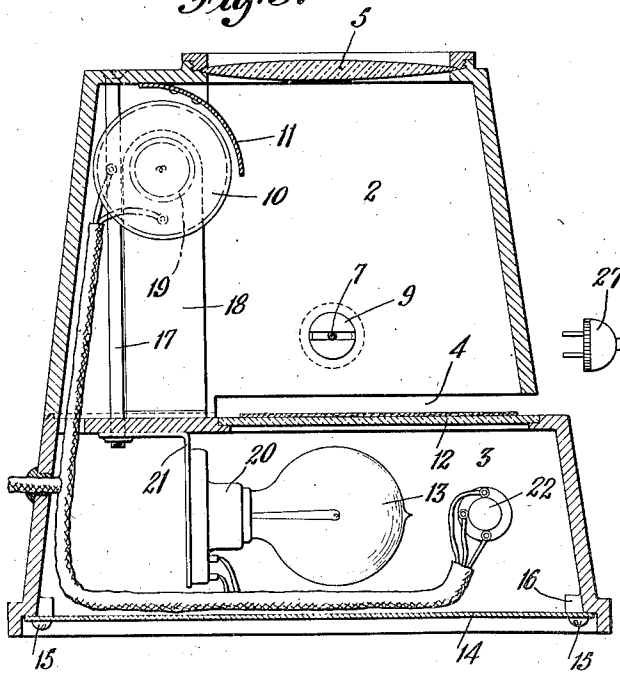
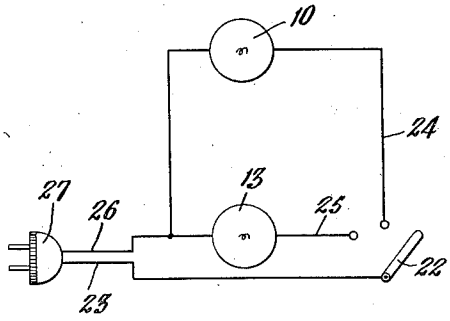


Fig. 4.



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COUNTERFEIT PAPER MONEY DETECTOR

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Application May 17, 1935, Serial No. 21,955

1 Claim. (Cl. 88—14)

This invention relates to a counterfeit paper money detector.

Many counterfeit bills defy detection by the naked eye. The bills can generally be distinguished from the genuine by examination of the kind and quality of paper and of the details of the printing or engraving. The Government engraved bills are engraved by a special engraving process that makes them almost impossible of exact duplication and a special paper is used having silk threads therein. The number of threads increase with the value of the bill. This latter feature is to prevent the use of washed bills in counterfeit.

One of the objects of this invention is to provide a means for the detection of counterfeit money.

Another object of the invention is to provide a portable device whereby the bill may be examined as to details of engraving and as to the quality and type of paper.

Referring to the drawing:

Figure 1 is a view in front elevation of a device embodying the principles of our invention.

Figure 2 is a top plan view of Figure 1.

Figure 3 is a view along the line 3, 3, of Figure 1 looking in the direction of the arrows.

Figure 4 is a diagrammatic view of the electrical circuit.

In carrying out our invention, we propose to provide a housing 1 divided into two chambers 2 and 3 with an opening 4 for the insertion of bills between the two chambers. In the top of chamber 2, we provide a lens 5 for the magnification and examination of the counterfeit bill. Within chamber 2 is an additional lens 6 supported by rod 7 which latter in turn passes through a hole through ball 8. Ball 8 is adapted to rotate in socket 9 in the horizontal plane and rod 7 may be moved forward or back with respect to ball 8. Ball 8 is prevented from movement in the vertical plane by a slot or groove in the exterior corresponding to lugs in socket 9 or by a horizontal slot in the side wall of housing 1. Lens 6 is therefore set at the proper distance from lens 5 so that correct magnification with respect to the bill in slot 4 is obtained. Lens 6 is adaptable, therefore, for movement to examine in detail with high magnification any portion of the bill and may be withdrawn so as not to interfere when the bill is being examined through lens 5 alone. Chamber 2 is lighted by electric lamp 10 which has a shield 11 to prevent the direct rays passing through lens 5 into the eyes of the user. The base of slot 4 upon which the bill rests is a ground or opal glass 12. Within chamber 3 is electric light bulb 13.

Housing 1 has sloping sides and the base is closed by plate 14 secured to housing 1 by studs 15 in threaded bosses 16. Electric lamp 13 can be renewed by removal of plate 14. The portion of housing 1 comprising chamber 2 is secured to the bottom portion comprising chamber 3 by through bolts 17 connecting the top of chamber 2 and the top of chamber 3. A supporting standard 18 carries lamp socket 19 for lamp 10. Standard 18 is secured in any well known manner to the top of chamber 3. The loosening of through bolts 17 permits the lifting of chamber 2 from the top of chamber 3 for the renewal of lamp 10. Socket 20 for lamp 13 is secured to angle 21 which in turn is fastened to the top of chamber 3. A three pole switch 22 is located on one side of housing 1 adjacent the front. The wiring is as follows:

One lead in wire 23 leads to one pole of switch 22. From another pole wire 24 leads to lamp 10 and from the third pole of the switch is wire 25 leading to lamp 13. The completion of the circuit is made by wire 26 which leads from the current supply to lamps 10 and 13. The wires are only supported by the portion of the housing comprising chamber 3 thereby permitting the removal of the top portion of housing 1 comprising chamber 2 when the through bolts 17 are unscrewed. The front wall of chamber 3 extends beyond the front wall of chamber 2 to permit of an easier insertion of the bill to be examined as it forms a protruding shelf.

The operation of the device is as follows:

Plug 27 is connected to a source of electric supply. Switch 22 is then thrown illuminating chamber 2. The bill is inserted in slot 4 and examined through lens 5. The details of the bill are then more carefully examined by means of movable lens 6 which in connection with lens 5 gives a magnification of miscroscopic magnitude. Lens 6 is then withdrawn from the line of vision and switch 22 is thrown to the other pole lighting lamp 13 and shutting off lamp 10. The bill can then be examined with respect to the quality and type of paper and the number of silk threads, whether genuine or marked and whether the bill has been washed.

Although this device is designed for the detection of counterfeit money, we do not desire to be limited in its use as it may be used in connection with the examination of textiles, paper, documents and materials wherein magnification, reflected and transmitted light are desirable.

Various modifications in detail may be made and still fall within the scope of our invention.

What we claim is:

An examining device comprising a housing of a truncated pyramid formed in two sections, each section having a chamber therein, an aperture for the insertion of articles to be examined between the two sections, a ground glass roof for the bottom section, said ground glass roof forming the support for the article under examination, a lamp below said ground glass, a standard fixedly secured to the lower chamber and extending into said upper chamber, a lamp above said ground glass in the upper chamber supported by said standard, said upper chamber being removably mounted upon said lower chamber, and a lens in the top of said upper chamber.

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