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F. W. HUMPHNER

2,156,018

STAMP

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Fig. 1.

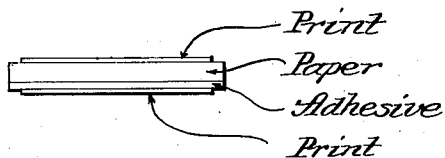


Fig. 2.

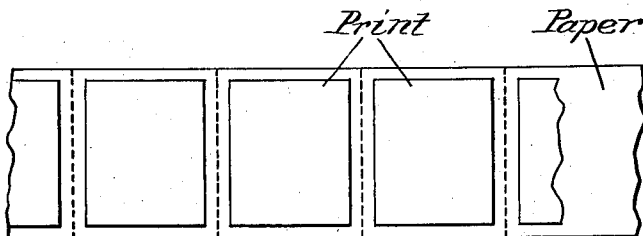
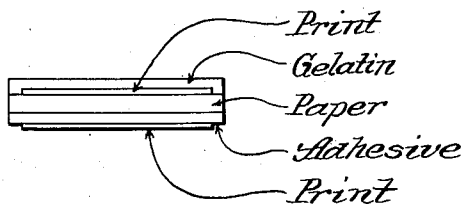


Fig. 3.



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STAMP

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8 Claims. (Cl. 283-6)

This invention relates to a stamp or the like, and is particularly useful in connection with a sales tax stamp.

In order to insure the collection of sales taxes, it has been customary to require dealers to issue certificates. One difficulty has been the tendency of customers to disregard the certificates, leaving them on the counter, etc., with the result that the certificates may be used again. An object of the present invention is to provide a simple and effective means for preventing reuse of sales tax indicia while at the same time providing simple and inexpensive means for insuring the collection of the taxes. A further object is to provide a sales tax stamp which may be used in large volume and with very simple procedure whereby the taxes may be collected accurately and effectively while at the same time requiring very little effort on the part of dealers, customers, etc. Other specific objects and advantages will appear as the specification proceeds.

The invention is illustrated in a preferred embodiment by the accompanying drawing in which—

Figure 1 is a greatly enlarged side view in elevation of a sales tax stamp or the like showing the various layers making up the tax stamp body; Fig. 2, a broken plan view of the stamps formed in perforated strips for use in a roll, the stamps being serially numbered; and Fig. 3, a side view in elevation of a modified form of sales tax stamp in which a fluorescent gelatine or glue is used.

As illustrated more clearly in Fig. 1, the stamp body consists of a paper base having on its upper side an imprint; as for example, a sales tax imprint of the type shown in Fig. 2. On its lower side, the stamp body is provided with a layer of adhesive of a type suitable for receiving an imprint thereon. Preferably, the imprint on the bottom of the adhesive is identical with the imprint on the top of the paper. The adhesive layer on the bottom of the stamp is preferably colored so as to provide a suitable background to receive the imprint, thus making the imprint, and particularly the serial number, stand out clearly thereon. In view of the fact that printing upon adhesive is well known in the art at the present time, it is believed unnecessary to describe the adhesive and its constituents or the printing ink, etc.

In the use of the stamps, it is preferable to have them arranged in a roll with perforations separating the individual stamps. The roll may, for convenience, be supported in a gumming machine and be fed one at a time over the water-

applying brush when it is desired to apply a stamp to a parcel. When a customer has made a purchase, the stamp may be wetted in any suitable way and applied to the carton, bag, container, receipt, or any other paper evidence of the sale. Where the tax is imposed upon services, the gummed stamp may be applied to the receipt given for payment of the service charge.

After the adhesive has been wetted for application, the imprint tends to break up and after application the stamp cannot be reused because when the adhesive layer is removed from the object to which it is applied, the bottom imprint is no longer intact and readable. A stamp tax statute could prohibit the use of tax stamps where the imprint on the bottom is not intact and equivalent to the imprint on the top of the paper.

Should the stamp be drawn from the roll and separated for application but for some reason not applied to the container or receipt, the wetting of the adhesive still serves to break up the imprint and prevent its reuse. At the same time, the heavy body of adhesive on one side of the stamp causes the paper to curl until the stamp forms a sealed roll, thus automatically cancelling the stamp for effective application.

By applying serial numbers to the rolls of stamps, it is extremely simple for both the dealer and the tax auditor to determine the number of sales, taxes due, etc. Further, the issuance of rolls of stamps bearing serial numbers prevents duplication, counterfeiting, etc.

In order to prevent counterfeiting of the stamp, various methods may be used. For example, the paper, print, or adhesive layers may be provided with an invisible ink which becomes visible upon the application of water or other liquid. Also, if desired, a chemical indicator may be formed in the paper, print, or adhesive and reacted with some fixed reagent. For example, beta naphthol dissolved in alcohol may be used in the glue, paper or ink coatings. In order to dissolve the beta naphthol, it is preferably first mixed with potassium hydroxide and then dissolved in alcohol. In order to test this fixed indicator in the stamp, I use a small amount of a dye salt dissolved in alcohol. Instead of beta naphthol, naphtol A. S. may be used. There are a large number of indicators known to the trade which may be employed.

If desired, various mechanical means may be employed with the dispensing apparatus for mutilating or injuring the stamp when it is fed through the device. However, it is often easy to

modify the dispensing devices so as to avoid such mutilation, and often such modification in dispensing devices occurs through the wear of use. In the use of my invention, no apparatus need be employed and the destruction of the imprint upon the adhesive is effected inevitably when the adhesive is moistened for application to the package, receipt, etc.

Through the use of the roll of stamps bearing adhesive upon which the identifying prints are formed, each bearing a serial number, it is possible to insure the collection of sales taxes while requiring merely the wetting and application of a stamp to the package or receipt, thus imposing very little burden upon the dealer. At the same time, the number and extent of sales can be determined readily by the auditor or dealer without counting the stamps individually.

The printing of the design of the stamp upon the bottom of the adhesive of each stamp tends to prevent the roll of stamps from adhering when the same are formed into rolls. The imprint thus not only serves to identify and establish the validity of the stamp in the eyes of the customer and to destroy the effectiveness of the stamp when it is applied to an article, but also enables the stamps to be readily used in roll form without adherence and thus permitting serial numbers to be employed effectively with the stamps to determine at a glance how many have been used.

In the modification shown in Fig. 3, I provide the stamp, label or the like with a layer of gelatine or glue which becomes fluorescent when the stamp or label is shielded against ordinary daylight and confined to the ultra violet ray. By the use of such a layer of gelatine or glue, the identity or genuineness of the stamp or label can be immediately detected by exposing the stamp to the ultra violet ray.

I prefer to employ a gelatine or glue which gives the desired fluorescence upon exposure to the ray while at the same time remaining non-adhesive or non-tacky. In the illustration given, the glue or gelatine layer is applied over the top imprint. However, if desired, the fluorescent glue or gelatine may be allowed to remain tacky or adhesive and used on the bottom of the stamp or it may be used to cover the entire surface of the stamp.

In order to make a glue or gelatine which loses its adhesive or tacky characteristics, I break down the viscosity or gel of the glue or gelatine by means of heat in a hydrolysis process. For example, a gelatine with a viscosity of 170 mil., a gel of 488 grams, is mixed with water on the basis of 3½ pounds of gelatine to each gallon of water. After soaking and melting the solution, which at this point is very viscous and is quite hard to pour, the solution is placed in an autoclave and heated for 45 minutes at an internal pressure of 90 pounds per square inch at 160° C. The gelatine in this case becomes very liquid and has lost its gelling power and makes an ideal material for imprinting and identifying stamps or labels by virtue of its fluorescent property.

It will be understood that the gelatine or glue can be given the above desired characteristics in a number of different ways. For example, the same thing can be accomplished by incorporating in the glue or gelatine a special enzyme or pepsin. In using this form of liquefier, the glue or gelatine in the same proportions as indicated above, is soaked in water in which the pepsin has been previously dissolved in the proportions of 1 to 3 pounds of pepsin to every 100

pounds of glue or gelatine, dependent upon the grade. This is allowed to soak for two hours and is melted at a temperature of around 120° F. When the solution is complete, concentrated hydrochloric acid is added to lower the pH from 3.5 to 4. The digestion starts at this point and continues until the glue or gelatine is sufficiently liquefied. At this point, the temperature is raised to 170° F. to kill the enzymes and the solution may or may not be neutralized with an alkali. As already stated, the stamp or label which is equipped with such a glue or gelatine can be readily detected as to its genuineness by subjecting the stamp or label to ultra violet rays, under which test the glue or gelatine becomes fluorescent.

While I have shown certain specific means for carrying out the invention, it will be obvious that many modifications may be made without departing from the spirit of my invention. The foregoing detailed description has been given for clearness of understanding only, and no unnecessary limitations should be understood therefrom, but the appended claims should be construed as broadly as permissible, in view of the prior art.

I claim:

1. A tax stamp comprising a paper base, an imprint thereon, a water-soluble adhesive on the bottom of said paper, and a thin imprint on said adhesive, said imprint being destroyed by the wetting of said adhesive.

2. A roll of tax stamps joined together and provided with weakened lines of separation between the stamps, said stamps being numbered serially and each consisting of a paper layer provided on its underside with a water-soluble adhesive layer, and at least one of said layers being provided with a material normally invisible but becoming visible upon the application of water.

3. A tax stamp of the character set forth comprising a paper base layer carrying an imprint layer thereon, a water-soluble adhesive layer at the bottom of said paper, and an imprint layer on the bottom of said adhesive, at least one of said layers being provided with an indicator material normally invisible but becoming visible upon the application of water for softening said adhesive.

4. A roll of stamps having design imprints upon their upper sides, adhesive layers on their undersides, and designs printed upon said adhesive layers, said last-mentioned designs tending to prevent adherence between the adhesive layer of one stamp and the adjacent surface of another stamp when said stamps are stacked one upon the other.

5. A roll of stamps each having an upper and a lower side provided with adhesive layer and having also the outer faces of said adhesive layers provided with like designs bearing serial numbers, said adhesive layer being water soluble and being adapted to destroy said lower design when water is applied to the adhesive on the lower side of the stamp.

6. A stamp comprising a paper base, an imprint thereon, an adhesive layer on the opposite side of the paper, an imprint on said adhesive and a layer of non-tacky gelatine carried by the same, said gelatine having the characteristic of becoming fluorescent when exposed to ultra-violet rays.

7. A tax stamp of the character set forth comprising a paper base, an imprint thereon,

adhesive for securing the stamp to a surface, and a layer of gelatine carried by said stamp, said gelatine having the characteristic of becoming fluorescent when exposed to ultra-violet rays.

thereof, an adhesive layer on the opposite side of said paper, and a gelatine layer over said imprint, said gelatine layer having the characteristic of becoming fluorescent when exposed to ultra-violet rays.

5 8. A stamp of the character set forth comprising a paper base, an imprint on one side

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