#### **Solving Money Issues**

Money Charms solves the dilemma of creating a paper currency that enables people with visual disabilities to feel the face value of each denomination. The inclusion of Money Charms also creates an added protection against counterfeiting.

Money Charms utilizes technology already in use by the Bureau of Engraving and Printing (BEP), but in a different way. Increasing the width of the denomination band sandwiched in the center of the paper will allow for shapes to be cut out of the surrounding paper giving a raised edge with which to feel. Although this may appear similar to an idea expressed in earlier reports of drilling holes into currency, Money Charms is significantly different on several levels.

- Holes would weaken the physical structure of the currency.
- Money Charms avoid holes by utilizing the strength of a durable and flexible band material sandwiched within the paper.
- Holes could be easily reproduced by even the lowest rated counterfeiter.
- Money Charms will need a great amount of effort and sophistication to reproduce on an economical level and will subsequently decrease the number of counterfeiting groups that would attempt or succeed in the reproduction of Money Charms.

The following pages show examples of how Money Charms can be implemented if the denomination band material is widened. An added element to the band material could be a texture or stippling that will keep it secure within the paper.

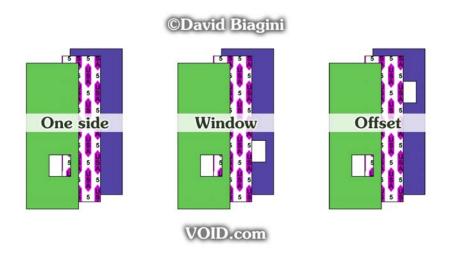
Along with varying charm shapes each currency image shows common fold lines and that the placement of any charm is specific to those fold lines.



Money Charms are best consisting of simple single shapes and only used on \$5, \$10, \$20, \$50, and \$100 bills. The overall area of the shapes will decrease from \$5 on through the \$100 denominations making it virtually impossible to alter a lower denomination into a higher denomination. The following examples use a square for \$5, a circle for \$10, a triangle for \$20, a star for \$50 and a crescent for \$100. The difficulty of altering the square into the circle, triangle, star or crescent is great; as is the difficulty to alter the circle into the triangle, star or crescent; as is the difficulty to alter the triangle into the star or crescent; as is the difficulty to alter the star into the crescent. Altering in the other direction will only lower the value of the denomination and would not be of value to counterfeiters. These preliminary shapes may change when adequate testing is performed on usability and counterfeiting issues.



Money Charms could be reflected on both sides as a window for the band. One sided or offset shapes may be easier for counterfeiters to mimic.



The following pages show examples of each denomination.

Using the Square for the \$5 bill





An alternative to the Square could be the Roman Numeral V, but sharp items within shapes could be problematic for wear and automated equipment.



# Using the Circle for the \$10 bill





An alternative to the Circle could be the Roman Numeral X, but protrusions within shapes could be problematic for wear and automated equipment.



Using the Triangle for the \$20 bill





An alternative to the Triangle could be the Roman Numeral XX, but to differentiate from the \$10 X the two Xs could be joined as shown.



Using the Star for the \$50 bill





An alternative to the Star could be the Roman Numeral L.



Using the Crescent for the \$100 bill





An alternative to the Crescent could be the Roman Numeral C, but shapes within shapes could be problematic for wear and automated equipment.



An alternative to single shapes over a wide denomination band is to utilize the Braille Alphabet spelling out \$5, \$10, \$20, \$50 and \$100. There are two major disadvantages when using Braille.

- It may be easier for counterfeiters to alter lower denomination bills into higher denomination bills by adding cut outs when bleaching is used. A way to help prevent this is to place exact mirror cut outs of Braille on reverse side creating windows at each circle.
- Denomination band may not be easily visible to people without vision impairment and may be overlooked if bills are altered by counterfeiters.

#### \$5 in Braille



#### \$10 in Braille



### \$20 in Braille



### \$50 in Braille



### \$100 in Braille



It should be obvious that with the addition of Money Charms the artwork will need to be redesigned to aesthetically work with the new shapes. A recurring theme could be the respective architecture shown from an angle revealing more three dimensionality and perspective. Along with the new positioning of the buildings one or two additional items in respect to the architecture and the obverse figure could be added, for example: the reverse of the \$5 bill could have a perspective view of the Lincoln Memorial to one side and a portion of the Gettysburg Address, "of the people, by the people, and for the people"; the reverse of the \$10 bill could have a perspective view of the US Treasury to one side and an image of an old style press used during Alexander Hamilton's term in office; the reverse of the \$20 bill could have a perspective of the White House to one side and a map of the US during the time of Andrew Jackson; the reverse of the \$50 bill could have the US Capitol in perspective view to one side along with an image of the US Flag during the time of Ulysses S. Grant's term in office; and the reverse of the \$100 bill could have a perspective view of Independence Hall on one side with a close up of the Liberty Bell in close proximity.



**Monetary Compensation** 

The design elements expressed in this report are entirely of my own creation and to the best of my knowledge new and innovative and different from elements so far researched and developed by the BEP.

I have prepared this document for presentation to the BEP to express my ideas for the creation of elements for use in our paper monetary system to help people with visual disabilities feel and discern the face value of paper money while at the same time developing added security against counterfeiting processes. I am hopeful that, if the BEP utilizes my ideas, a fair compensation will be negotiated with me as a designing contractor.

Samples of Money Charms have been included along with this report.

#### Original Correspondence with BEP

From: BEP Customer Service [websitemgr@bep.treas.gov]

Sent: Wednesday, February 28, 2007 9:11 AM

To: sales@void.com

Subject: Re: BEP Inquiry [BEP20070220000045872]

Dear Sir:

We appreciate your interest in making U.S. currency more difficult to counterfeit and aiding the visually impaired with the identification of currency denominations. The Bureau of Engraving and Printing (BEP) is interested in reviewing products, materials, and technologies to address all types of counterfeit deterrents and currency features for the visually impaired . Prospective vendors may contact the BEP for procurement opportunities through the following web link

http://www.moneyfactory.gov/procurement/index.cfm/113

BEP Moneyfactory.gov

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#### Original Message

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I just finished watching a show about the US BEP on History Channel's Modern Marvels, and I had a thought of a process that might help make counterfeiting very difficult to pull off.

First my thought was to have special shapes cut out in special locations, but a hole would lessen the life span of a note. Yet the hole could be filled with a fine durable netting material that would be literally open but would secure the hole. The material would be installed similarly to the strip of identifiers (USA FIVE, etc). Adding this option should also help people with sight impediments, and make it so the notes could remain equal in size and width dimensions.

Please feel free to contact me if you have any questions or if I have not explained my idea clearly.

I have sent a copy of this message to thc.viewerrelations@aetv.com.

Sincerely, David Biagini

#### Original Correspondence with AETV

From: VOID [sales@void.com]

Sent: Tuesday, February 20, 2007 8:27 PM

**To:** 'thc.viewerrelations@aetv.com' **Subject:** Modern Marvels : US BEP

Dear History Channel,

I wanted to send you a copy of what I sent to the US BEP while watching one of your programs.

The following was sent via <a href="http://www.bep.treas.gov/section.cfm/16">http://www.bep.treas.gov/section.cfm/16</a> on 20070220:

I just finished watching a show about the US BEP on History Channel's Modern Marvels, and I had a thought of a process that might help make counterfeiting very difficult to pull off.

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Please feel free to contact me if you have any questions or if I have not explained my idea clearly.

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Sincerely, David Biagini

Thanks very much, David Biagini

All Creativity Sparks In A VOID™

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