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United States Patent Application Publication	20250259121
Kind Code	A1
Publication Date	August 14, 2025
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Card Forming Method and Apparatus

Abstract

A method inserting a first portion of a workpiece material between an upper layer and a lower layer of a workpiece support material. The method also includes folding a second portion of the workpiece material over and on top of the upper layer of the workpiece support material. The second portion is coupled to the first portion. The method further includes inserting the workpiece material and the workpiece support material into an electronic cutting machine.

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Appl. No.: 19/194484

Filed: April 30, 2025

Related U.S. Application Data

parent US division 17757081 20220609 parent-grant-document US 12321875 US division
PCT/US2020/064540 20201211 child US 19194484
us-provisional-application US 62947467 20191212

Publication Classification

Int. Cl.: G06Q10/0631 (20230101); B65H35/00 (20060101); B65H37/06 (20060101);
B65H45/04 (20060101); B65H45/28 (20060101); G05B19/18 (20060101); G06F16/27
(20190101); G06Q50/00 (20240101)

U.S. Cl.:

Background/Summary

CROSS-REFERENCE TO RELATED APPLICATIONS [0001] This U.S. patent application is a divisional of, and claims priority under 35 U.S.C. § 121 from U.S. patent application Ser. No. 17/757,081, filed on Jun. 9, 2022, which claims priority to PCT Application No. PCT/US2020/064540, designating the United States of America, filed on Dec. 11, 2020, which claims priority under 35 U.S.C. § 119(e) to U.S. Patent Application No. 62/947,467, filed on Dec. 12, 2019. The disclosures of these prior applications are considered part of the disclosure of this application and are hereby incorporated by reference in their entireties.

TECHNICAL FIELD

[0002] The disclosure generally relates to card forming systems, methods, and apparatus. In particular, the present disclosure relates to card forming mats and methods of use thereof.

BACKGROUND

[0003] This section provides background information related to the present disclosure and is not necessarily prior art.

[0004] Throughout history, individuals have found a sense of personal fulfillment, achievement, satisfaction, and expression by creating art. In recent times, during the late 19th century, an art reform & social movement led by skilled tradesmen was slowly starting to be recognized by many people across America, Canada, Great Britain and Australia. This movement has often been referred to as the “arts-and-crafts movement.”

[0005] The so-called arts-and-crafts movement that began many years ago has continued to evolve today by many persons that may not necessarily be skilled in a particular trade. As such, it may be said that non-skilled persons may be involved in the arts-and-crafts as a social activity or hobby. In some circumstances, the activity or hobby may be practiced for any number of reasons ranging from, for example: economic gain, gifting, or simply to pass time while finding a sense of personal fulfillment, achievement, satisfaction, and expression.

[0006] With advances in modern technology, the “arts-and-Crafts Movement” that began many years ago is susceptible to further advancements that may enhance or improve, for example, the way a skilled or non-skilled person may contribute to arts-and-crafts. Therefore, a need exists for the development of improved components, devices and the like that advance the art.

[0007] For example, methods and tools for making customized cards, such as greeting cards and the like, remains an area of interest for skilled and non-skilled crafters that needs improvement.

Current methods and tools for making cards in the prior art are inefficient and cumbersome.

Persons crafting at home, with portable or home-use tools and cutting machines, are especially susceptible to inefficient processes because of the small scale of tools available for home-crafters.

[0008] For example, typical electronic cutting machines used at home are limited in size, having available cutting widths in the range of about six or twelve inches. With such limitations, it may be impossible to make large cards as desired and/or it may take an inconveniently long time to make a large number of customized cards. Thus, it is difficult to cut, inscribe, or otherwise form cards with precision, accuracy, and simplicity in bulk using tools and methods currently available in the prior art, especially when using hand tools or electronic cutting machines designed for home use.

[0009] Accordingly, there are a number of technical problems in the art that can be addressed.

SUMMARY

[0010] This section provides a general summary of the disclosure, and is not a comprehensive disclosure of its full scope or all of its features.

[0011] Implementations of the present disclosure relate generally to card forming systems, methods, and apparatus. In particular, the present disclosure relates to card forming mats and methods of use thereof. For example, in one embodiment of the present disclosure, a method of forming a card includes providing a card and a card mat. The card mat has an upper barrier layer and a lower layer. At least a portion of the card can be inserted between the upper and lower layers of the card mat and the remaining portion of the card is folded over and on top of the upper layer of the card mat. The method also includes altering the remaining portion of the card disposed on top of the upper layer of the card mat.

[0012] In one embodiment of the present disclosure, a method of forming a card includes: inserting a first portion of a card between an upper barrier layer and a lower layer of a card mat; folding a second portion of the card mat over and on top of the upper barrier layer; and inserting the card and card mat together into an electronic cutting machine with the second portion of the card facing up.

[0013] In one embodiment of the present disclosure, a card mat configured to assist in a forming of one or more cards includes an upper layer and a lower layer. At least a portion of the upper layer is separable or separated from the lower layer at a distance sufficient to allow at least a portion of a card to be inserted there between during use.

[0014] In one embodiment of the present disclosure, a card mat configured to assist in a forming of one or more cards including an upper sheet and a lower sheet. A first portion of the upper sheet is separable from the second sheet and a second portion of the upper sheet is secured to the lower sheet via an adhesive layer.

[0015] One aspect of the disclosure provides a method. The method may include inserting a first portion of a workpiece material between an upper layer and a lower layer of a workpiece support material. The method may also include folding a second portion of the workpiece material over and on top of the upper layer of the workpiece support material. The second portion may be coupled to the first portion. The method may further include inserting the workpiece material and the workpiece support material into an electronic cutting machine.

[0016] Implementations of this aspect of the disclosure may include one or more of the following optional features. In some implementations, the method includes disposing the second portion of the workpiece material flush against an upper surface of the upper layer of the workpiece support material.

[0017] In some implementations, before inserting at least a portion of the workpiece material between the upper layer and the lower layer of the workpiece support material, the method includes separating the upper layer of the workpiece support material from the lower layer of the workpiece support material.

[0018] In some implementations, the method includes altering the second portion of the workpiece material.

[0019] In some implementations, the upper layer is secured to the lower layer at a first end of the workpiece support material. A portion of the upper layer may be separable from the lower layer.

[0020] In some implementations, the upper layer is secured to the lower layer at a second end of the workpiece support material. The portion of the upper layer that is separable from the lower layer may include a portion of the upper layer disposed between the first end and the second end of the workpiece support material where the upper layer is secured to the lower layer.

[0021] In some implementations, the workpiece support material further comprises one or more spacers disposed between the upper layer and the lower layer.

[0022] Another aspect of the disclosure provides a method. The method may include receiving a workpiece into an electronic cutting machine. The workpiece may include a workpiece support material and a workpiece material. The workpiece support material may include an upper layer and a lower layer opposing the upper layer. The workpiece material may include a first portion and a

second portion coupled to the first portion. The first portion may be disposed between the upper layer and the lower layer. The upper layer may be disposed between the first portion and the second portion. The method may also include altering the second portion of the workpiece material with the electronic cutting machine.

[0023] Implementations of this aspect of the disclosure may include one or more of the following optional features. In some implementations, the lower layer of the workpiece support material extends laterally beyond edges of the upper layer. The method may further include engaging the lower layer with a roller assembly of the electronic cutting machine, and actuating the workpiece support material forward-and-backward through the electronic cutting machine.

[0024] Another aspect of the disclosure provides a workpiece support material. The workpiece support material may include an upper layer and a lower layer. The upper layer may include a first portion and a second portion. The lower layer may oppose the upper layer. The first portion of the upper layer may be separable from the lower layer to allow at least a portion of a workpiece material to be inserted there between. The second portion of the upper layer may be secured to the lower layer.

[0025] Implementations of this aspect of the disclosure may include one or more of the following optional features. In some implementations, the workpiece support material includes a spacer disposed between the upper layer and the lower layer. The spacer may engage the lower layer and the second portion of the upper layer.

[0026] In some implementations, the workpiece support material includes a first spacer and a second spacer. The first spacer may be disposed between first and second layers at a first end of the workpiece support material. The second spacer may be disposed between the first and second layers at a second end of the workpiece support material. The first spacer may be separated from the second spacer by a distance. The upper layer may be fixed to the lower layer via the first spacer. The upper layer may be removably secured to the lower layer via the second spacer.

[0027] In some implementations, the workpiece support material includes an adhesive layer disposed on a top surface of the upper layer.

[0028] In some implementations, the upper layer is secured to the lower layer at only one end of the workpiece support material.

[0029] In some implementations, the upper layer is secured to the lower layer at two opposing ends of the workpiece support material.

[0030] In some implementations, the upper layer is transparent or semi-transparent.

[0031] In some implementations, the upper layer is a barrier layer configured to protect the portion of the workpiece material disposed between the upper layer and the lower layer of the workpiece support material during use.

[0032] Yet another aspect of the disclosure provides a workpiece support material. The workpiece support material may include a lower sheet and an upper sheet. The upper sheet may include (i) a first portion separable from the lower sheet and (ii) a second portion secured to the lower sheet via an adhesive layer.

[0033] Implementations of this aspect of the disclosure may include one or more of the following optional features. In some implementations, the workpiece support material includes one or more spacers disposed between the upper sheet and the lower sheet.

[0034] In some implementations, the workpiece support material includes a first spacer and a second spacer. The first spacer may be disposed between the upper sheet and the lower sheet at a first end of the workpiece support material. The second spacer may be disposed between the upper sheet and lower sheet at a second end of the workpiece support material. At least a portion of the first portion of the upper sheet that is separable from the lower sheet extends between the first and second spacers. The upper sheet may be secured to the lower sheet at the first spacer. The upper sheet may be secured to the lower sheet at the second spacer.

[0035] In some implementations, the workpiece support material includes a first adhesive layer

secured to the upper sheet and the lower sheet. The first adhesive layer is disposed between the upper sheet and the lower sheet at a first end of the workpiece support material. The workpiece support material may include a second adhesive layer disposed between the upper sheet and the lower sheet at a second end of the workpiece support material. A portion of the upper sheet not secured to the lower sheet and extending between the first adhesive layer and the second adhesive layer may be separable from the lower sheet.

[0036] In some implementations, the lower sheet extends laterally beyond side edges of the upper sheet.

[0037] In some implementations, the first portion of the upper sheet is not secured to the lower sheet.

[0038] Yet another aspect of the disclosure provides a kit. The kit may include a first workpiece material, a second workpiece material, and a workpiece support material. The first workpiece material may include a first primary portion and a first secondary portion coupled to the first primary portion. The first primary portion may define a first width. The second workpiece material may include a second primary portion and a second secondary portion coupled to the second primary portion. The second primary portion may define a second width greater than the first width. The workpiece support material may include a lower sheet and an upper sheet. The upper sheet may be selectively separable from the lower sheet to define a cavity therebetween. The cavity may be configured to separately receive the first primary portion and the second primary portion.

[0039] Each of the above independent implementations of the present disclosure, and those implementations described in the detailed description below, may include any of the features, options, and possibilities set out in the present disclosure and figures, including those under the other independent implementations, and may also include any combination of any of the features, options, and possibilities set out in the present disclosure and figures.

[0040] Additional features and advantages of exemplary implementations of the present disclosure will be set forth in the description which follows, and in part will be obvious from the description, or may be learned by the practice of such exemplary implementations. The features and advantages of such implementations may be realized and obtained by means of the instruments and combinations particularly pointed out in the appended claims. These and other features will become more fully apparent from the following description and appended claims or may be learned by the practice of such exemplary implementations as set forth hereinafter.

[0041] The details of one or more implementations of the disclosure are set forth in the accompanying drawings and the description below. Other aspects, features, and advantages will be apparent from the description and drawings, and from the claims.

[0042] Each of the above independent implementations of the present disclosure, and those implementations described in the detailed description below, may include any of the features, options, and possibilities set out in the present disclosure and figures, including those under the other independent implementations, and may also include any combination of any of the features, options, and possibilities set out in the present disclosure and figures.

[0043] Additional features and advantages of exemplary implementations of the invention will be set forth in the description which follows, and in part will be obvious from the description, or may be learned by the practice of such exemplary implementations. The features and advantages of such implementations may be realized and obtained by means of the instruments and combinations particularly pointed out in the appended claims. These and other features will become more fully apparent from the following description and appended claims or may be learned by the practice of such exemplary implementations as set forth hereinafter.

Description

DESCRIPTION OF DRAWINGS

[0044] In order to describe the manner in which the above-recited and other advantages and features of the present disclosure can be obtained, a more particular description of the disclosure briefly described above will be rendered by reference to specific configurations thereof which are illustrated in the appended drawings. Understanding that these drawings depict only typical configurations of the present disclosure and are not therefore to be considered to be limiting of its scope, the present disclosure will be described and explained with additional specificity and detail through the use of the accompanying drawings in which:

[0045] FIG. 1 illustrates a perspective view of a miniaturized cutting machine with the door open to receive material, according to the principles of the present disclosure.

[0046] FIG. 2 is a perspective view of an exemplary workpiece support material that is configured for receiving a workpiece and being collectively received by the cutting machine of FIG. 1.

[0047] FIG. 3 is an enlarged view of the workpiece support material according to line 3 of FIG. 2.

[0048] FIG. 4 is a side elevation view of the workpiece support material of FIG. 2 with break-in-length lines indicating an indeterminate length thereof

[0049] FIG. 5A is a perspective view of an exemplary workpiece defined by an exemplary workpiece material interfaced with, and arranged in a first orientation with respect to, the workpiece support material of FIG. 2, according to the principles of the present disclosure.

[0050] FIG. 5B is a perspective view of the workpiece material of FIG. 5A further interfaced with, and arranged in a second orientation with respect to, the workpiece support material, according to the principles of the present disclosure.

[0051] FIG. 5C is a perspective view of the workpiece material of FIG. 5B further interfaced with, and arranged in a third orientation with respect to, the workpiece support material, according to the principles of the present disclosure.

[0052] FIG. 6 is a flowchart illustrating an exemplary method of forming a card using a workpiece support material, according to the principles of the present disclosure.

[0053] FIG. 7 is a perspective view of a first step of using a system including a cutting machine, a workpiece material and a workpiece support material, according to the principles of the present disclosure.

[0054] FIG. 7A is a cross-sectional view according to line 7A-7A of FIG. 7.

[0055] FIG. 8 is a perspective view of a second step of using the system according to FIG. 7.

[0056] FIG. 8A is a cross-sectional view according to line 8A-8A of FIG. 8.

[0057] FIG. 9 is a perspective view of a third step of using the system according to FIG. 7.

[0058] FIG. 9A is a cross-sectional view according to line 9A-9A of FIG. 9.

[0059] FIG. 10 is a perspective view of a fourth step of using the system according to FIG. 7.

[0060] FIG. 10A is a cross-sectional view according to line 10A-10A of FIG. 10.

[0061] FIG. 11 is a perspective view of a fifth step of using the system according to FIG. 7.

[0062] FIG. 11A is a cross-sectional view according to line 11A-11A of FIG. 11.

[0063] FIG. 12 is a perspective view of a sixth step of using the system according to FIG. 7.

[0064] FIG. 12A is a cross-sectional view according to line 12A-12A of FIG. 12.

[0065] FIG. 13 is a perspective view of a seventh step of using the system according to FIG. 7.

[0066] FIG. 13A is a cross-sectional view according to line 13A-13A of FIG. 13.

[0067] FIG. 14 is a perspective view of an eighth step of using the system according to FIG. 7.

[0068] FIG. 15 is a perspective view of an exemplary workpiece material arranged within exemplary packaging, according to the principles of the present disclosure.

[0069] FIG. 16 is a cross-sectional view according to line 16-16 of FIG. 15.

[0070] Corresponding reference numerals indicate corresponding parts throughout the drawings.

DETAILED DESCRIPTION

[0071] The present disclosure relates generally to card forming systems, methods, and apparatus. In

particular, the present disclosure relates to card forming mats and methods of use and provides technical solutions to a number of technical problems in the art discussed above.

[0072] For example, in one aspect of card mats disclosed herein, the card mats enable users to create large customized cards by hand or with electronic cutting machines configured for home use. In addition, in one aspect of the present disclosure, methods of use of card mats disclosed herein are simple and repeatable, enabling skilled and novice crafters to produce customized cards in large volumes precisely and accurately.

[0073] Example configurations will now be described more fully with reference to the accompanying drawings. Example configurations are provided so that this disclosure will be thorough, and will fully convey the scope of the disclosure to those of ordinary skill in the art. Specific details are set forth such as examples of specific components, devices, and methods, to provide a thorough understanding of configurations of the present disclosure. It will be apparent to those of ordinary skill in the art that specific details need not be employed, that example configurations may be embodied in many different forms, and that the specific details and the example configurations should not be construed to limit the scope of the disclosure.

[0074] In general, card mats described herein may be configured for use with electronic cutting machines, such as cutting machine **10** shown in FIG. **1**. As seen in FIG. **1**, the cutting machine **10** includes a door **12** that is configured for arrangement in an open orientation in order to allow a workpiece **50** (e.g., FIG. **5A**), which may include, collectively, the workpiece support material **20** of FIG. **2** and exemplary workpiece material **28** seen at FIGS. **5A-5C**, to be inserted into the cutting machine **10**. The door **12** may be selectively opened and closed via a hinge mechanism (not shown) where the door **12** connects to the cutting machine **10**. The cutting machine **10** may also include various internal cutting components, such as, for example, a carriage **14**, a tool **19**, and a roller assembly **16**.

[0075] As seen at FIG. **1**, the cutting machine also define a working surface **18**, a portion of which may define an upwardly-facing surface of the door **12** when the door **12** is arranged in an open configuration. The working surface **18** may provide a surface on which one or both of the workpiece material **28** and the workpiece support material **20** (and/or other implements, such as, for example, other cutting mats) can rest when fed forward and/or backward through the cutting machine **10** by the roller assembly **16**. As, for example, one or both of the workpiece material **28** and the workpiece support material **20** is fed forward-and-backward by the roller assembly **16**, the carriage **14**, which manipulates the tool **19** upwardly-and-downwardly relative to the working surface **18**, can move back-and-forth laterally across one or both of the workpiece material **28** and the workpiece support material **20** (and/or other implements, such as, for example, other cutting mats) in order to conduct work on or alter the workpiece material **28**.

[0076] One or both of the workpiece material **28** and the workpiece support material **20** that is/are fed into the cutting machine **10** may be worked upon or altered in a number of ways, depending on, for example, the type of the tool **19** that may be removably-interfaced with the carriage **14**. For example, in some configurations, the tool **19** may include a cutting blade, a scoring tool, an ink pen/marker, or other tools that may be associated with creating arts-and-crafts projects. The workpiece support material **20** disclosed herein is configured to be fed into a machine such as cutting machine **10** illustrated in FIG. **1**, as well as other home-use electronic cutting machines. In addition, workpiece support material **20** of the present disclosure is configured to be used without a cutting machine, where a user can alter the material **20** by hand using handheld cutting blades, pens/markers, scoring tools, or other handheld crafting tools.

[0077] With reference to FIG. **2**, the exemplary workpiece support material **20** may include an upper barrier layer **22** and a lower guiding layer **24** between which at least a portion of workpiece material **28** may be inserted (as seen at, e.g., FIGS. **5A-5B** and **9**). A remaining portion of the workpiece material **28** that may not be secured between the upper barrier layer **22** and the lower guiding layer **24** may be folded over on top of and above the upper barrier layer **22** of the

workpiece support material **20** (as seen at, e.g., FIGS. 5B-5C and **10**). Subsequently (as seen at, e.g., FIGS. **10-12**), the workpiece support material **20** and the workpiece material **28** may be inserted into a cutting machine (e.g., cutting machine **10**) (collectively, together, the workpiece support material **20** and the workpiece material **28** may be referred to as the workpiece **50**) such that the remaining portion of the workpiece material **28** that is not secured between the upper barrier layer **22** and the lower guiding layer **24** of the workpiece support material **20** is arranged opposite the tool **19** of the cutting machine **10**, such that the tool **19** can impinge upon—for example, cut into—the remaining portion of the workpiece material **28** that is not secured between the upper barrier layer **22** and the lower guiding layer **24** of the workpiece support material **20**. For example, the tool **19** may engage the portion of the workpiece material **28** that is disposed upon or on top of the upper barrier layer **22**. Accordingly, during a cutting operation performed by the cutting machine **10**, the portion of the workpiece material **28** that is disposed between the upper barrier layer **22** and the lower guiding layer **24** is protected from being directly contacted by tool **19** as a result of the intervening arrangement of the upper barrier layer **22** of the workpiece support material **20** between portions of the workpiece material **28**.

[0078] With reference to FIG. 5A, the workpiece material **28** may be alternatively referred to as a card (e.g., a sheet of material that is folded upon itself to form a living hinge **28x** that results in the card **28** including: (1) a front cover panel **28p1** defining an outer surface **28pi-o** and an inner surface **28p1-1**; and (2) a rear cover panel **28p2** defining an outer surface **28p2-o** and an inner surface **28p2-I**). Accordingly, one or both of the inner surface **28p1-1** of the front cover panel **28p1** and the inner surface **28p2-I** of the rear cover panel **28p2** of the card **28** may include a note or message from a sender that is intended to be read by a user whereas, for example (as seen at FIGS. **11-14**), the front cover panel **28p1** of the card **28** may be altered or worked-on by the cutting machine **10** in order to define a design (e.g. a cut pattern) that is formed by the tool **19** of the cutting machine **10**.

[0079] Components of the workpiece material **28** (which may be alternatively referred to as a “card mat”) and methods of use thereof will be described in more detail below, but in general, configurations of the workpiece materials **28** described herein reduce the space needed to alter or form a card **28** by a factor of two. That is, the methods and apparatus for cutting the card **28** in the present disclosure may not include the steps of laying a sheet of workpiece material in an unfolded orientation prior to cutting or inscribing a portion of that unfolded workpiece material (that would subsequently form a front cover panel of the unfolded workpiece material), and then subsequently folding the workpiece material to form a hinge such that the workpiece material resembled a card (defined by a front cover panel and a rear cover panel) after the workpiece material is altered or worked upon.

[0080] In view of the utilization of the workpiece support material **20**, workpiece material **28** may be preformed or pre-purchased in the form of a card that is already folded to define a living hinge **28x** prior to being cut by the cutting machine **10**, with the rear cover panel **28p2** of the workpiece material **28** being protected from the tool **19** during a cutting operation performed by the cutting machine **10**. As such, the workpiece support material **20** effectively reduces the area needed to form folded workpiece materials (defining a card) having only a one side cut or inscribed on by a factor of two. Thus, methods and apparatus of forming a card described herein enable larger cards to be made more efficiently using relatively smaller (e.g., “home-use”) crafting devices such as, for example, the cutting machine **10**, where a workspace or professional crafting resources are not available or are more limited than they are in larger, industrial factory setting.

[0081] Referring to FIGS. **2-4**, an exemplary configurations of the workpiece support material **20** may include at least two layers. For example, the workpiece support material **20** may include the upper layer **22** and the lower layer **24**. During use, the upper layer **22** may function as a protective layer acting as a wall or barrier that prevents the tool **19**, which may include a cutting blade, from impinging onto anything (such as, e.g., the rear cover panel **28p2** of the workpiece material **28**) that

is arranged spatially below the upper layer **22** when the workpiece **50** is interfaced with the cutting machine **10** (as seen at, e.g., FIGS. **10-11**). In this way, the upper layer **22** also acts as a shield for anything (such as, e.g., the rear cover panel **28P2** of the workpiece material **28**) disposed between the upper layer **22** and the lower layer **24**. In this regard, the upper layer **22** may be referred to herein as the “upper barrier layer **22**.”

[0082] In some instances, a thickness (see, e.g., **T22** at FIG. **3**) and material(s) of the upper barrier layer **22** may vary depending on, for example, the type (e.g., hardness) of the workpiece material **28** and/or an amount of force that is used to cut into and/or through the workpiece material **28** (which may be defined by a unique hardness, such as, for example, relatively thicker card stock when compared to relatively thinner paper). In some configurations, for example, the upper barrier layer **22** may be formed of polyvinylchloride (PVC) or other similar plastic, polymer, or other polymeric materials. Accordingly, the thickness **T22** of the upper barrier layer **22** may not be limited to what is illustrated in the Figures, and, as such, may be greater or lesser, depending on, for example, one or more of a hardness and thickness of the workpiece material **28** that is to be cut by the tool **19** of the cutting device **10**. In some implementations, upper barrier layer **22** may be defined by a PVC material and the thickness **T22** of the upper barrier layer **22** may be within the range of about 0.30 mm to about 0.45 mm when the cutting machine **10** is configured to impart the tool **19** with a downward force of about 400 grams.

[0083] In a similar fashion, the lower layer **24** may also be made of any desirable material(s), such as, for example, PVC or other plastic materials. In some configurations, the lower layer **24** may be formed from the same material as that of the upper barrier layer **22** so that both of the upper barrier layer **22** and the lower layer **24** expand or creep to the same extent during or after manufacturing. In other configurations, the upper barrier layer **22** and the lower layer **24** may be formed from different materials. Functionally, the lower layer **24** may be formed to provide structure and form for guiding the workpiece support material **20** through the cutting machine **10** as seen at, for examples, FIGS. **10-11**. In this regard, the lower layer **24** may be referred to herein as the “lower guiding layer **24**.”

[0084] As seen at, for example, FIG. **2**, in some configurations, the lower guiding layer **24** may define a width **W24** (extending between opposite outer edges **24E1**, **24E2** of the lower guiding layer **24**) that is greater than a width **W22** (extending between opposite outer edges **22E1**, **22E2** of the upper barrier layer **22**) defined by the upper barrier layer **22**. Furthermore, the upper barrier layer **22** may be joined to and centered (in the width direction between the opposite outer edges **24E1**, **24E2** of the lower guiding layer **24**) upon or over the lower guiding layer **24** such that at least one or more width portions (see, e.g., **W24A**) of the width **W24** of the lower guiding layer **24** extends laterally beyond one or both of the outer edges **22E1**, **22E2** of the upper barrier layer **22**. Accordingly, the one or more width portions **W24A** of the width **W24** of the lower guiding layer **24** define one or more upwardly-facing surface portions **24ui**, **24u2**, that may be arranged or configured to be in contact with one or more workpiece-moving portions (e.g., the roller assembly **16**) of the cutting machine **10** when the workpiece support material **20** is disposed within the cutting machine **10** as seen at FIGS. **10-11**. As such, when the workpiece support material **20** is arranged within the cutting machine **10**, the upper barrier layer **22** may not contact, for example, the roller assembly **16** during use, even when the upper layer **22** facing upward as shown. Therefore, in some configurations, the roller assembly **16** may pinch or otherwise contact a region of the lower guiding layer **24** defined at least in part by the upwardly-facing surface portions **24ui**, **24u2** of the one or more width portions **W24A** of the width **W24** of the lower guiding layer **24** when the workpiece **50** is inserted into the cutting machine **10** and moved forwardly-and-backwardly through the cutting machine **10**. Such an exemplary configuration also maximizes the available cutting area between the rollers of the roller assembly **16** of the cutting machine **10** (i.e., in some instances, the entire area of the upper barrier layer **22** extending between the opposite outer edges **22E1**, **22E2** of the upper barrier layer **22**, or anything disposed thereover, such as, for

example, the front cover panel **28P1** of the workpiece material **28**, is not obstructed by the workpiece support material **20** during a cutting operation or the like as associated with the tool **19**. [0085] In some configurations, a thickness (see, e.g., **T24** at FIG. 3) of the lower guiding layer **24** may vary depending on, for example, the type (e.g., hardness) of the workpiece material **28** and/or an amount of force that is called for in order to cut into and through the workpiece material **28** (which may be defined by a unique hardness, such as, for example, relatively thicker card stock when compared to relatively thinner paper). In some configurations, the thickness **T24** may be configured to be thick enough to provide form and/or rigidity that promotes, for example, the roller assembly **16** to grasp and guide the workpiece support material **20** through the cutting machine **10**. In some instances, the lower guide layer **24** may be formed from a PVC material and may be defined by a thickness **T24** of the lower guide layer **24** between about 0.40 mm and about 0.60 mm. In other configurations, the lower guide layer **24** may be formed from a PVC material and may be defined by a thickness **T24** approximately equal to about 0.50 mm.

[0086] With reference to FIG. 3, in some implementations, the workpiece support material **20** may further include a spacer **26** disposed between the upper barrier layer **22** and the lower guiding layer **24**. In some configurations, the spacer **26** may be defined by a thickness **T26** between about 0.40 mm and about 0.60 mm. In other configurations, the thickness **T26** of the spacer **26** may be approximately equal to about 0.50 mm. Functionally, the spacer **26** separates the upper barrier layer **22** from the lower guiding layer **24** so that the workpiece support material **20** defines a void or workpiece-receiving cavity **23** (see also FIG. 4) that is configured or sized to receive at least a portion of the workpiece support material **20**, such as, for example, a rear cover panel **28P2** of the workpiece material **28**, which may be defined by, for example, a cardstock material, a paper material, or other card materials. In one or more other configurations, the thickness **T26** of the spacer **26** may be greater than or less than the thicknesses **T22**, **T24** of one or both of the upper barrier layer **22** and the lower guiding layer **24** so long as the spacer **26** maintains sufficient spacing between the upper barrier layer **22** and the lower guiding layer **24** so as to form the void or workpiece-receiving cavity **23** that is configured or sized to receive at least a portion of the workpiece support material **20**.

[0087] With reference to FIG. 4, in some implementations, the workpiece support material **20** may include two spacers **26** that are disposed between the upper barrier layer **22** and the lower guiding layers **24** such that one spacer **26** of the two spacers **26** is arranged at or near a leading end **20L** (see also FIG. 2) end and one spacer **26** of the two spacers **26** is arranged at or near a trailing end **20T** (see also FIG. 2) of the workpiece support material **20**.

[0088] In some configurations, the upper barrier layer **22** may be secured to the lower guiding layer **24** at or near the leading end **20L** end and/or the trailing end **20T** of the workpiece support material **20** with the spacers **26** and/or various intermediate adhesive layers **27** (see, e.g., FIG. 4) disposed between: (1) a lower surface portion of the upper barrier layer **22** and the spacer **26**; and (2) an upper surface portion of the lower guiding layer **24** and the spacers **26**. In other configurations, the spacers **26** may define one or more adhesive layers that directly adhere or bind the upper barrier layer **22** to the lower guiding layer **24**. Alternatively, in yet other configurations, the upper barrier layer **22** and/or the lower guiding layer **24** may be secured together at or by the spacers **26** with one or more layers of pressure sensitive adhesive **27** such that the upper barrier layer **22** and the lower guiding layer **24** do not slip or otherwise move relative to one another during use but are selectively separable by, for example, a user, as needed. Alternatively, in other configurations, the upper barrier layer **22** is selectively-removably-secured to the lower guiding layer **24** at or near one of the leading end **20L** end and/or the trailing end **20T** of the workpiece support material **20** by one of the two spacers **26** such that a portion of the lower surface of the upper barrier layer **22** can be partially peeled away from a portion of the upper surface of the lower guiding layer **24** while maintaining a connection to a remaining portion of the upper surface of the lower guiding layer **24** at the other spacer **26**. Alternatively, in other configurations, the upper barrier layer **22** may not be secured to

the lower guiding layer **24** at all, but, rather, may be configured to be at least temporarily secured thereto for use within the cutting machine **10**.

[0089] Furthermore, in some configurations, the workpiece support material **20** may not include any spacers **26**; rather, in such configurations, the upper barrier layer **22** may be adhered, either permanently or semi-permanently to the lower guiding layer **24** directly via one or more adhesive layers **27** at or near one of the leading end **20L** end and the trailing end **20T** of the workpiece support material **20** of the upper barrier layer **22**. In such configurations, the upper barrier layer **22** and the lower guiding layer **24** may be flexed away from one another to form the void or workpiece-receiving cavity **23**. Even further, in such implementations, one end of the upper barrier layer **22** at or near one of the leading end **20L** end and the trailing end **20T** of the workpiece support material **20** may be directly secured to the lower guiding layer **24** with the other end of the upper barrier layer **22** at or near one of the leading end **20L** end and the trailing end **20T** of the workpiece support material **20** free to be peeled away from the lower guiding layer **24**.

[0090] Along these lines, some configurations of the workpiece support material **20** may be in the form of an envelope, whereby the upper barrier layer **22** may be secured to the lower guiding layer **24** at or near three edges thereof (i.e., in the event of a rectangularly configured workpiece support material **20**). In such configurations, the upper barrier layer **22** may be separated or separable from the lower guiding layer **24** at the edge of the workpiece support material **20** that is not secured together like an envelope. Once separated, a portion of the workpiece material **28** may be inserted into the cavity **23** of the envelope-shaped workpiece support material **20**, as will be described in more detail below.

[0091] Furthermore, in some implementations, the upper barrier layer **22** and the lower guiding layer **24** may be formed integrally as a single piece of material having two opposing sheets that are separated by some distance along at least a portion of the length of workpiece support material **20**. Such an integrally-formed embodiment of the workpiece support material **20**, if not formed having sheets with a space there-between, may at least be formed to have opposing sheets that are able to be separated from each other either by flexing, bending, or otherwise separated to insert a portion of the workpiece material **28** there-between.

[0092] Exemplary implementations of the workpiece support material **20** described herein may include various combinations of any of the embodiments described herein, and may provide two opposing layers or sheets of material between which another separate sheet (or sheets) of material, such as a portion (e.g. a rear cover panel **28P2**) of the workpiece material **28** that is not being worked on is protected from being cut or otherwise altered by the tool **19** of the cutting machine **10**. Also, in general, at least one layer of the workpiece support material **20** described herein may provide a barrier layer that prevents the tool **19** from contacting or at least partially penetrating **20** a portion of the workpiece material **28**.

[0093] As shown at FIGS. **5A**, **8-9**, and **8A-9A**, at least a portion (e.g. a rear cover panel **28P2**) of the workpiece material **28** may be inserted between the upper barrier layer **22** and the lower guiding layer **24** of the workpiece support material **20**. With reference to FIGS. **7-8** and **7A-8A**. in some instances, prior to interfacing the workpiece material **28** with the workpiece support material as described above, a film material **21** may be optionally removed from an upper surface of the upper barrier layer **22**. In some configurations, film material **21** and the upper barrier layer **22** may be transparent or at least semi-transparent, such that an end user can visualize the portion (e.g. a rear cover panel **28P2**) of the workpiece material **28** disposed between the upper barrier layer **22** and the lower guide layer **24** during use (accordingly, the film material **21** may protect the clear material defining the upper barrier layer **22** from being scratched during shipping, which may adversely affect the benefits associated with the transparency of the upper barrier layer **22** as described above). Additionally, the upper barrier layer **22** and/or the lower guiding layer **24** may include indicia **25** (see also FIG. **2**) that may assist the end user for the purposes of guiding and/or aligning the workpiece material **28** between the upper barrier layer **22** and the lower guiding layer

24. The indicia **25** shown in the Figures may include, for example, lines indicating where the edges of various predetermined (or standard) sizes of workpiece materials **28** could be aligned for defining the workpiece **50** when the workpiece **50** is interfaced with the cutting machine **10**. The indicia **25** may also be included for providing instructions or other information to end users of the workpiece support material **20**.

[0094] In some configurations, the indicia **25** may provide for placement or arrangement of three different sizes of workpiece materials **28** that may be referenced from, for example, a corner of the workpiece support material **20** between the spacers **26**. In one or more other embodiments, other indicia **25** may be included or added to help end users align a wide variety of sizes and shapes of workpiece materials **28** at different positions or regions within the workpiece support material **20**. The indicia **25** on the workpiece support material **20** may also be arranged on the workpiece support material **20** in conjunction with software and sensor functionalities of the cutting machine **10** so that the indicia **25** also provides the cutting machine **10** with alignment data, the type of the workpiece material **28**, and/or the size of the workpiece material **28** in order to permit the cutting machine **10** to automatically recognition one or more features of the workpiece **50** that is interfaced with the cutting machine **10**.

[0095] During use, as shown at FIGS. **5A** and **8-10**, an end user may insert at least a portion (e.g. a rear cover panel **28P2**) of the workpiece material **28** between the upper barrier layer **22** and the lower guiding layer **24** of the workpiece support material **20**. Once inserted, as shown at FIGS. **5B** and **10**, an end user can fold the workpiece material **28** at the living hinge **28H** over so that at least some of a remaining portion (e.g., a front cover panel **28pi**) of the workpiece material **28** is folded at the living hinge **28H** over the upper barrier layer **22** of the workpiece support material **20**. In some configurations, as shown in FIGS. **5C** and **10-11**, the portion (e.g., a front cover panel **28pi**) of the workpiece material **28** may be folded over the upper barrier layer **22** and pressed downwardly upon an upper surface of the upper barrier layer **22**.

[0096] Along these lines, in order to at least temporarily retain a portion (e.g., a front cover panel **28pi**) of the workpiece material **28** on the upper surface of the upper barrier layer **22** of the workpiece support material **20** as shown, some configurations of the workpiece support material **20** may include a pressure sensitive adhesive layer **21A** (see, e.g., FIGS. **8** and **8A** that may be protected by or covered by the selectively-removable film material **21**) or other type of adhesive layer disposed on top of the upper surface of the upper barrier layer **22**. In such configurations, the workpiece material **28** may be retained flat against upper surface of the upper barrier layer **22** such that the front cover panel **28pi** of the workpiece material **28** does not shift or separate from the upper barrier layer **22** when cut or otherwise impinged upon by the tool **19** when the workpiece **50** is arranged within the cutting machine **10**. Additionally, or alternatively, an upper surface of the lower guiding layer **24** may also include an adhesive layer, such as a pressure sensitive adhesive layer, so that the portion (a rear cover panel **28P2**) of the workpiece material **28** that is disposed between the upper barrier layer **22** and the lower guiding layer **24** of the workpiece support material **20** is also securely retained there-between. Additionally or alternatively, a lower surface of the upper barrier layer **22** may also include an adhesive layer, such as a pressure sensitive adhesive layer, so that the portion (a rear cover panel **28P2**) of the workpiece material **28** disposed between the upper barrier layer **22** and the lower guiding layer **24** of the workpiece support material **20** is securely retained there-between.

[0097] Accordingly, exemplary configurations of the workpiece support material **20** described above may include one or more adhesive layers (see, e.g., adhesive layer **21A**) arranged on one or more surfaces of one or both of the upper barrier layer **22** and the lower guiding layer **24**. Such adhesive(s) **21A** may temporarily retain the workpiece material **28** to the workpiece support material **20** as shown at FIGS. **5C**, **10**, and **10A**. Along these lines, in exemplary embodiments where the upper surface of the upper barrier layer **22** includes an adhesive layer **21A**, the removable film material **21** may form a protective sheet to protect the adhesive layer **21A** when the

workpiece support material **20** is not in use. In such configurations, such a film material **21** can be easily removed (as seen at FIGS. 7-8 and 7A-8A) for placement of, for example, the front cover panel **28_{pi}** of the workpiece material **28** on top and adjacent the upper barrier layer **22** of the workpiece support material **20**.

[0098] Once the workpiece material **28** is selectively secured to the workpiece support material **20** for defining the workpiece **50** as seen at FIGS. 5A-5C, 7-9, and 7A-9A, the end user may insert the workpiece **50** into the cutting machine at FIGS. 10-11 and 10A-11A such that the cutting machine **10** may conduct work (e.g., cut, scribe, or alter) on the front cover panel **28_{pi}** of the workpiece material **28** at FIGS. 11-12 and 11A-12A. Once the work (i.e., cutting operation) is completed, as seen at FIGS. 12-13 and 12A-13A, the end user may remove (see, e.g., arrow R at FIG. 13A) a cut portion of the front cover panel **28_{pi}** of the workpiece material **28** (while a disposable portion **28_{p1}'** of the front cover panel **28_{pi}** of the workpiece material **28** remains adhered to the adhesive **21A** of the upper barrier layer **22**) in order to provide a workpiece material **28** that may define a die-cut card as seen at FIG. 14. Accordingly, once the workpiece material **28** is situated relative to the workpiece support material **20** as shown at FIGS. 5C, 10, and 10A, the workpiece **50** can be either inserted into the cutting machine **10** to alter the exposed portion (e.g., the front cover panel **28_{p1}**) of the workpiece material **28** while the unexposed portion (e.g., the rear cover panel **28_{P2}**) of the workpiece material **28** that is arranged between the upper barrier layer **22** and the lower guiding layer **24** is protected from the tool **19** of the cutting machine **10**. As noted above, in some configurations of the workpiece support material **20**, because the one or more upwardly-facing surface portions **24_{u1}**, **24_{u2}** of the lower guiding layer **24** extends laterally beyond the opposite outer edges **22E1**, **22E2** of the upper barrier layer **22**, the entire area of the front cover panel **28_{p1}** of the workpiece material **28** is accessible by the tool **19** for altering the front cover panel **28_{p1}** of the workpiece material **28** between the roller assembly **16** of the cutting machine **10** (i.e., rollers or other components of a roller system, such as the roller assembly **16** of the cutting machine **10** do not contact the workpiece material **28** when the workpiece support material **20** is interfaced with the cutting machine **10** that moves the workpiece **50** forwardly-and-backwardly through the cutting machine **10**). This exemplary configuration leaves the entire area of the front cover panel **28_p"** of the workpiece material **28** exposed when arranged over the upper barrier layer **22** of the workpiece support material **20**.

[0099] With reference to FIG. 6, a flowchart of an exemplary method **30** of forming or conducting work on the workpiece material **28** using the workpiece support material **20** and the cutting machine **10** is shown. In some embodiments, a first step **32** may include inserting at least a portion of the workpiece material **28** between the upper barrier layer **22** and the lower guide layer **24** of the workpiece support material **20** (see, e.g., FIG. 5A). In other embodiments, workpiece support materials **20** having an upper barrier layer **22** that is connected to the lower guiding layer **24** at or near one of the leading end **20L**, end or the trailing end **20T** of the workpiece support material **20**, a first step of the method **30** may include peeling the upper barrier layer **22** up and away from the lower guiding layer **24** in order to provide space or expose the void or workpiece-receiving cavity **23** that is configured or sized to receive at least a portion (e.g., the rear cover panel **28_{P2}**) of the workpiece material **28** between the upper barrier layer **22** and the lower guiding layer **24**.

[0100] In configurations of the workpiece support material **20** that do not include one or more spacers **26**, a first step of the method **30** may include firstly separating the upper barrier layer **22** from the lower guiding layer **24** at least enough to insert a portion (e.g., the rear cover panel **28_{P2}**) of the workpiece material **28** there-between. In such an exemplary implementation, separation of the upper barrier layer **22** and the lower guiding layer **24** may include peeling back the upper barrier layer **22** from the lower guiding layer **24**. In other implementations, separation of the upper barrier layer **22** and the lower guiding layer **24** may include flexing, bending, or otherwise physically manipulating one of the upper barrier layer **22** and the lower guiding layer **24** away from the other of the upper barrier layer **22** and the lower guiding layer **24** to provide space or expose the

void or workpiece-receiving cavity **23** that is configured or sized to receive at least a portion (e.g., the rear cover panel **28P2**) of the workpiece material **28** there-between.

[0101] In other instances, the method **30** may include separating the upper barrier layer **22** from the lower guiding layer **24** of the workpiece support material **20** to provide or expose the void or workpiece-receiving cavity **23** that is configured or sized to receive at least a portion (e.g., the rear cover panel **28P2**) of the workpiece material **28**; a further step of the method **30** may include returning the upper barrier layer **22** down and against the lower guiding layer **24** with at least a portion (e.g., the rear cover panel **28P2**) of the workpiece material **28** disposed there-between in order to retain the portion of the workpiece material **28** between the upper barrier layer **22** and the lower guiding layer **24**.

[0102] In at least one exemplary implementation of the method **30**, when at least a portion (e.g., the rear cover panel **28P2**) of the workpiece material **28** has been placed between the upper barrier layer **22** and the lower guiding layer **24** as noted above, a further step of the method **30** may include pressing downwardly or providing a downwardly-directed force onto the workpiece support material **20** where the upper surface of the lower guiding layer **24** and/or the lower surface of the upper barrier layer **22** include one or more adhesive layers **21A** for securing the workpiece material **28** there-between. By pressing downwardly in this way, the portion (e.g., the rear cover panel **28P2**) of the workpiece material **28** that is disposed between the upper barrier layer **22** and the lower guiding layer **24** of the workpiece support material **20** remain there-between.

[0103] In some embodiments, a second step **34** of the method **30** may include folding a remaining portion (e.g., the front cover panel **28pi**) of the workpiece material **28** over or on top of an upper surface of the upper barrier layer **22** of the workpiece support material **20**. Such a step **34** may result in the remaining portion (e.g., the front cover panel **28pi**) of the workpiece material **28** being exposed above the upper barrier layer **22** of the workpiece support material **20** when the workpiece **50** is arranged within the cutting machine such that the remaining portion (e.g., the front cover panel **28pi**) of the workpiece material **28** may be arranged opposite the tool **19** such that the tool **19** may conduct work on (e.g., cut) the remaining portion (e.g., the front cover panel **28pi**) of the workpiece material **28** (see, e.g., FIGS. **5B** and **10-12**).

[0104] In other embodiments of the method **30**, a third step **36** may include disposing the exposed, remaining portion (e.g., the front cover panel **28pi**) of the workpiece material **28** that has been folded over the upper surface of the upper barrier layer **22** of the workpiece support material **20** against the upper barrier layer **22** in order to be arranged flush against the top surface of the upper barrier layer **22** of the workpiece support material **20** (see, e.g., FIG. **5C**).

[0105] In exemplary embodiments where a top surface of the upper barrier layer **22** includes an adhesive layer **21A**, a further step of the method **30** may include pressing the exposed portion (e.g., the front cover panel **28pi**) of the workpiece material **28** downwardly and against the adhesive layer **21A** so that the exposed portion (e.g., the front cover panel **28pi**) of the workpiece material **28** remains flush against the upper surface of the upper barrier layer **22** of the workpiece support material **20**. Pressing downwardly onto the exposed portion (e.g., the front cover panel **28pi**) of the workpiece material **28** may also secure the portion (e.g., the rear cover panel **28P2**) of the workpiece material **28** disposed between the upper barrier layer **22** and the lower **30** guiding layer **24** of the workpiece support material **20** between the upper barrier layer **22** and the lower guiding layer **24** in embodiments where the upper surface of the lower guiding layer **24** and/or the lower surface of the upper barrier layer **22** also includes one or more adhesive layers **21A** for securing a portion (e.g., the rear cover panel **28P2**) of the workpiece material **28** there-between.

[0106] In other embodiments of the method **30**, a fourth step **38** may include altering the exposed portion (e.g., the front cover panel **28pi**) of the workpiece material **28** (see e.g., FIGS. **11-14** and **11A-13A**), which is disposed on an upper surface of the upper barrier layer **22** of the workpiece support material **20**. In such a step, the act of altering may include cutting **C** (see, e.g., FIGS. **12-14** and **12A-13A**), drawing, writing, inscribing, scoring, perforating, and/or otherwise altering the

exposed portion (e.g., the front cover panel **28pi**) of the workpiece material **28**.

[0107] In some embodiments of the method **30**, the act of altering the exposed portion (e.g., the front cover panel **28pi**) of the workpiece material **28** may include inserting the workpiece **50** (e.g., collectively, the workpiece support material **20** and the workpiece material **28**) into an electronic cutting machine **10** that includes a tool **19** that is configured to impinge downwardly onto the exposed portion (e.g., the front cover panel **28pi**) of the workpiece material **28** and the associated upper barrier layer **22** of the workpiece support material **20**.

[0108] In at least one implementation of method **30**, altering the exposed portion of card **28** may include hand-altering the exposed portion of card **28**, including hand-cutting, hand-drawing, hand-writing, hand-scoring, hand-inscribing, hand-perforating, or otherwise altering card **28** by hand.

[0109] In some embodiments of the method **30**, further steps may include re-inserting the workpiece **50** into the electronic cutting machine **10** in order to perform additional alterations, including those alterations noted above (e.g., cutting, drawing, writing, inscribing, scoring, perforating, or the like) or combinations thereof. In other embodiments, multiple unit of workpiece material **28** may be cut or otherwise altered and then fitted together into a single altered or worked-on workpiece material **28** in order to produce any number of aesthetics and designs on the workpiece material **28**. In some embodiments of the method **30**, a further step may include inserting and folding more than one workpiece material **28** to the workpiece support material **20** at a time.

[0110] Referring to FIGS. **15** and **16**, packaging **100** is shown. The packaging **100** is configured to contain the workpiece support material **20**. Arranged at, near, or over the leading end **20L** of the workpiece support material **20** is a label portion **102** that is also contained within the packaging **100**. The packaging **100** may be formed from a clear material that defines a bag in order to expose surface features and components of the workpiece support material **20** and the label portion **102**. In at least one configuration, the label portion **102** may be disposed on the outside of the packaging **100** so that the packaging **100** is at least partially covered by the label portion **102**.

[0111] In yet other configurations, the packaging **100** may further include one or more sleeve portions **104** (which may alternatively be referred as one or more collars, one or more wrapping portions or the like) that at least partially or fully surrounds the upper barrier layer **22** that is contained within the packaging **100**. For example, the sleeve portion **104** may include at least an upper panel portion **104u** that is arranged over and at least partially covers a portion of the upper barrier layer **22** of the workpiece support material **20**. One or more surfaces of the sleeve portion **104** may include pictures, printed indicia, text, images or the like that may include, but is not limited to, promotional and/or instructive texts and images. The sleeve portion **104** may be removable so as to not interfere with the proper use of workpiece support material **20**.

[0112] With reference to FIGS. **15** and **16**, in some implementations, the sleeve portion **104** defines a “C-shape” (i.e., the sleeve portion **104** may hereinafter be referred to as a “C-shaped sleeve portion.”). Accordingly, the C-shaped sleeve portion **104** may be configured in a substantially similar manner as the workpiece material **28** (e.g., the sleeve portion **104** may be alternatively referred to as a “sample card,” a “free card,” “complementary card.” or “test card” that is provided with the workpiece support material **20**). In this regard, disposing the sleeve portion **104** about or around the upper barrier layer **22** can indicate the functionality of the support material **20** to the user. In particular, the sleeve portion **104** may be at least partially disposed between the upper barrier layer **22** and the guide layer **24** to show the separability of the upper barrier layer **22** relative to the guide layer **24**, thus hinting at the purpose and use of workpiece support material **20** before the end user purchases or opens the packaging **100**.

[0113] In some configurations, the C-shaped sleeve portion **104** may include a sheet of material that is folded upon itself to form a living hinge **104H** (see, e.g., FIG. **15**) that results in the C-shaped sleeve portion **104** including: (1) the upper panel portion **104u** (see, e.g., FIGS. **15** and **16**) defining an outer surface and an inner surface; and (2) a lower panel portion **104L** (see, e.g., FIG.

16) defining an outer surface and an inner surface). Accordingly, as seen at FIG. 16, the upper panel portion **104u** may be arranged between a transparent front panel portion of the packaging **100** and the upper barrier layer **22** of the workpiece support material **20** whereas the lower panel portion **104L** is disposed within the void or workpiece-receiving cavity **23** as a result of being arranged between the upper barrier layer **22** and the lower guiding layer **24**. With reference to FIGS. 15 and 16, the living hinge **104H** of the C-shaped sleeve portion **104** may extend across a portion of the thicknesses **T22** of the upper barrier layer **22**. Furthermore, as seen at FIG. 16, a thickness (not shown) of the lower panel portion **104L** of the C-shaped sleeve portion **104** may be less than the thickness **T26** of the spacer **26** (that also defines a thickness, height, or dimension of the void or workpiece-receiving cavity **23**). Accordingly, in some configurations, when the C-shaped sleeve portion **104** is interfaced with the workpiece support material **20** as seen at FIGS. 15 and 16, the C-shaped sleeve portion **104** may be defined by a thickness (not shown) that is less than a thickness **Teo** of the workpiece support material **20**.

[0114] As noted above, each of the embodiments described in the detailed description above may include any of the features, options, and possibilities set out in the present disclosure, including those under the other independent embodiments, and may also include any combination of any of the features, options, and possibilities set out in the present disclosure and figures. Further examples consistent with the present teachings described herein are set out in the following numbered clauses:

[0115] Clause 1: A method of forming a card, comprising: providing a card; providing a card mat, comprising: an upper barrier layer; and a lower layer; inserting at least a portion of the card between the upper and lower layers of the card mat; folding a remaining portion of the card over and on top of the upper layer of the card mat, the remaining portion of the card being at least some of a portion of the card that is not disposed between upper and lower layers of the card mat; and altering the remaining portion of the card.

[0116] Clause 2: the method of clause 1, further comprising: before altering the remaining portion of the card, disposing the remaining portion of the card flush against an upper surface of the upper layer of the card mat.

[0117] Clause 3: The method of any of clauses 1 through 2, further comprising: before inserting at least a portion of the card between the upper and lower layers of the card mat, separating the upper layer of the card mat from the lower layer of the card mat.

[0118] Clause 4: The method of any of clauses 1 through 3, wherein altering the remaining portion of the card includes feeding the card and the card mat together into an electronic cutting machine.

[0119] Clause 5: The method of any of clauses 1 through 4, wherein: the upper barrier layer is secured to the lower layer at a first end of the card mat; and at least a portion of the upper barrier layer is separable from the lower layer.

[0120] Clause 6: The method of clause 5, wherein: the upper barrier layer of the card mat is secured to the lower layer at a second end of the card mat; and the at least a portion of the upper barrier layer that is separable from the lower layer includes a portion of the upper barrier layer disposed between the first and second ends of the card mat where the upper barrier layer is secured to the lower layer.

[0121] Clause 7: The method of any of clauses 1 through 6, the card mat further comprising one or more spacers disposed between the upper barrier layer and the lower layer.

[0122] Clause 8: A method of forming a card, comprising: inserting a first portion of a card between an upper barrier layer and a lower layer of a card mat; folding a second portion of the card over and on top of the upper barrier layer; and inserting the card and card mat together into an electronic cutting machine with the second portion of the card facing up.

[0123] Clause 9: The method of clause 8, further comprising: before inserting the first portion of the card between the upper barrier layer and the lower layer of the card mat, separating at least a portion of the upper barrier layer from the lower layer.

[0124] Clause 10: The method of any of clauses 8 through 9, wherein the lower layer of the card mat extends laterally beyond the edges of the upper barrier layer such that a roller assembly of the electronic cutting machine pinches or otherwise contacts lower layer during an actuation of the card mat forward-and-backward through the electronic cutting machine.

[0125] Clause 11: A card mat configured to assist in a forming of one or more cards, the card mat comprising: an upper layer; and a lower layer, wherein at least a portion of the upper layer is separable or separated from the lower layer at a distance sufficient to allow at least a portion of a card to be inserted therebetween during use.

[0126] Clause 12: The card mat of clause 11, wherein the upper layer is separated from the lower layer by at least one spacer disposed between the upper layer and the lower layer.

[0127] Clause 13: The card mat or any of clause 11 through 12, further comprising: a first spacer disposed between first and second layers at a first end of the card mat; and a second spacer disposed between the first and second layers at a second end of the card mat, wherein the first and second spacers are separated from one another by a distance.

[0128] Clause 14: The card mat of clause 13, wherein: the upper layer is fixed to the lower layer via the first spacer; and the upper layer is removably secured to the lower layer via the second spacer.

[0129] Clause 15: The card mat of any of clauses 11 through 14, further comprising an adhesive layer disposed on a top surface of the upper layer.

[0130] Clause 16: The card mat of any of clauses 11 through 15, wherein the upper layer is secured to the lower layer at only one end of the card mat.

[0131] Clause 17: The card mat of any of clauses 11 through 13, wherein the upper layer is secured to the lower layer at two opposing ends of the card mat.

[0132] Clause 18: The card mat of any of clauses 11 through 17, wherein the upper layer is transparent or semi-transparent.

[0133] Clause 19: The card mat of any of clauses 11 through 18, wherein the upper layer is a barrier layer configured to protect the portion of the card disposed between the upper and lower layers of the card mat during use.

[0134] Clause 20: A card mat configured to assist in a forming of one or more cards, the card mat comprising: an upper sheet; and a lower sheet, wherein: a first portion of the upper sheet is separable from the second sheet; and a second portion of the upper sheet is secured to the lower sheet via an adhesive layer.

[0135] Clause 21: The card mat of clause 20, further comprising one or more spacers disposed between the upper sheet and the lower sheet.

[0136] Clause 22: The card mat of any of clauses 20 through 21, further comprising: a first spacer disposed between the upper and lower sheets at a first end of the card mat; and a second spacer disposed between the upper and lower sheets at a second end of the card mat, wherein at least some of the first portion of the upper sheet that is separable from the second sheet extends between the first and second spacers.

[0137] Clause 23: The card mat of clause 22, wherein the upper sheet is secured to the lower sheet via the first spacer.

[0138] Clause 24: The card mat of clause 23, wherein the upper sheet is secured to the lower sheet via the second spacer.

[0139] Clause 25: The card mat of clause 20, wherein the upper sheet is secured to the lower sheet via one or more adhesive layers, including a first adhesive layer disposed between the upper and lower sheets at a first end of the card mat.

[0140] Clause 26: The card mat of clause 25, wherein a portion of the upper sheet not secured to the lower sheet is separable from the lower sheet.

[0141] Clause 27: The card mat of clause 25, further comprising a second adhesive layer disposed between the upper and lower sheets at a second end of the card mat.

[0142] Clause 28: The card mat of clause 27, wherein a portion of the upper sheet not secured to the lower sheet and extending between the first and second adhesive layers is separable from the lower sheet.

[0143] Clause 29: The card mat of any of clauses 20 through 28, wherein the lower sheet extends laterally beyond side edges of the lower layer.

[0144] Clause 30: A method comprising: inserting a first portion of a workpiece material between an upper layer and a lower layer of a workpiece support material; folding a second portion of the workpiece material over and on top of the upper layer of the workpiece support material, the second portion coupled to the first portion; and inserting the workpiece material and the workpiece support material into an electronic cutting machine.

[0145] Clause 31: The method of clause 30, further comprising: disposing the second portion of the workpiece material flush against an upper surface of the upper layer of the workpiece support material.

[0146] Clause 32: The method of any of clauses 30 through 31, further comprising: before inserting at least a portion of the workpiece material between the upper layer and the lower layer of the workpiece support material, separating the upper layer of the workpiece support material from the lower layer of the workpiece support material.

[0147] Clause 33: The method of any of clauses 30 through 32, further comprising altering the second portion of the workpiece material.

[0148] Clause 34: The method of any of clauses 30 through 33, wherein: the upper layer is secured to the lower layer at a first end of the workpiece support material; and a portion of the upper layer is separable from the lower layer.

[0149] Clause 35: The method of clause 34, wherein: the upper layer is secured to the lower layer at a second end of the workpiece support material; and the portion of the upper layer that is separable from the lower layer includes a portion of the upper layer disposed between the first end and the second end of the workpiece support material where the upper layer is secured to the lower layer.

[0150] Clause 36: The method of any of clauses 30 through 35, wherein the workpiece support material further comprises one or more spacers disposed between the upper layer and the lower layer.

[0151] Clause 37: A method comprising: receiving a workpiece into an electronic cutting machine, the workpiece including a workpiece support material and a workpiece material, the workpiece support material including an upper layer and a lower layer opposing the upper layer, the workpiece material including a first portion and a second portion coupled to the first portion, the first portion disposed between the upper layer and the lower layer, and the upper layer disposed between the first portion and the second portion; and altering the second portion of the workpiece material with the electronic cutting machine.

[0152] Clause 38: The method of clause 37, wherein the lower layer of the workpiece support material extends laterally beyond edges of the upper layer, the method further comprising: engaging the lower layer with a roller assembly of the electronic cutting machine; and actuating the workpiece support material forward-and-backward through the electronic cutting machine.

[0153] Clause 39: A workpiece support material comprising: an upper layer including a first portion and a second portion; and a lower layer opposing the upper layer, wherein the first portion of the upper layer is separable from the lower layer to allow at least a portion of a workpiece material to be inserted therebetween, and wherein the second portion of the upper layer is secured to the lower layer.

[0154] Clause 40: The workpiece support material of clause 39, further comprising a spacer disposed between the upper layer and the lower layer.

[0155] Clause 41: The workpiece support material of clause 40, wherein the spacer engages the lower layer and the second portion of the upper layer.

[0156] Clause 42: The workpiece support material of any of clauses 40 through 41, further comprising: a first spacer disposed between first and second layers at a first end of the workpiece support material; and a second spacer disposed between the first and second layers at a second end of the workpiece support material, wherein the first spacer is separated from the second spacer by a distance.

[0157] Clause 43: The workpiece support material of clause 42, wherein: the upper layer is fixed to the lower layer via the first spacer; and the upper layer is removably secured to the lower layer via the second spacer.

[0158] Clause 44: The workpiece support material of any of clauses 40 through 43, further comprising an adhesive layer disposed on a top surface of the upper layer.

[0159] Clause 45: The workpiece support material of any of clauses 40 through 44, wherein the upper layer is secured to the lower layer at only one end of the workpiece support material.

[0160] Clause 46: The workpiece support material of any of clauses 40 through 45, wherein the upper layer is secured to the lower layer at two opposing ends of the workpiece support material.

[0161] Clause 47: The workpiece support material of any of clauses 40 through 46, wherein the upper layer is transparent or semi-transparent.

[0162] Clause 48: The workpiece support material of any of clauses 40 through 47, wherein the upper layer is a barrier layer configured to protect the portion of the workpiece material disposed between the upper layer and the lower layer of the workpiece support material during use.

[0163] Clause 49: A workpiece support material comprising: a lower sheet; and an upper sheet having (i) a first portion separable from the lower sheet and (ii) a second portion secured to the lower sheet via an adhesive layer.

[0164] Clause 50: The workpiece support material of clause 49, further comprising one or more spacers disposed between the upper sheet and the lower sheet.

[0165] Clause 51: The workpiece support material of any of clauses 49 through 50, further comprising: a first spacer disposed between the upper sheet and the lower sheet at a first end of the workpiece support material; and a second spacer disposed between the upper sheet and lower sheet at a second end of the workpiece support material, wherein at least a portion of the first portion of the upper sheet that is separable from the lower sheet extends between the first and second spacers.

[0166] Clause 52: The workpiece support material of clause 51, wherein the upper sheet is secured to the lower sheet at the first spacer.

[0167] Clause 53: The workpiece support material of any of clauses 51 through 52, wherein the upper sheet is secured to the lower sheet at the second spacer.

[0168] Clause 54: The workpiece support material of any of clauses 49 through 53, further comprising a first adhesive layer secured to the upper sheet and the lower sheet, wherein the first adhesive layer is disposed between the upper sheet and the lower sheet at a first end of the workpiece support material.

[0169] Clause 55: The workpiece support material of clause 54, further comprising a second adhesive layer disposed between the upper sheet and the lower sheet at a second end of the workpiece support material.

[0170] Clause 56: The workpiece support material of clause 55, wherein a portion of the upper sheet not secured to the lower sheet and extending between the first adhesive layer and the second adhesive layer is separable from the lower sheet.

[0171] Clause 57: The workpiece support material of any of clauses 49 through 56, wherein the lower sheet extends laterally beyond side edges of the upper sheet.

[0172] Clause 58: The workpiece support material of any of clauses 49 through 57, wherein the first portion of the upper sheet is not secured to the lower sheet.

[0173] Clause 59: A kit comprising: a first workpiece material including a first primary portion and a first secondary portion coupled to the first primary portion, the first primary portion defining a first width; a second workpiece material including a second primary portion and a second

secondary portion coupled to the second primary portion, the second primary portion defining a second width greater than the first width and; and a workpiece support material including a lower sheet and an upper sheet, the upper sheet selectively separable from the lower sheet to define a cavity there between, the cavity configured to separately receive the first primary portion and the second primary portion.

[0174] The articles “a,” “an,” and “the” are intended to mean that there are one or

[0175] more of the elements in the preceding descriptions. The terms “comprising,” “including,” and “having” are intended to be inclusive and mean that there may be additional elements other than the listed elements. Additionally, it should be understood that references to “one embodiment” or “an embodiment” of the present disclosure are not intended to be interpreted as excluding the existence of additional embodiments that also incorporate the recited features. Numbers, percentages, ratios, or other values stated herein are intended to include that value, and also other values that are “about” or “approximately” the stated value, as would be appreciated by one of ordinary skill in the art encompassed by embodiments of the present disclosure. A stated value should therefore be interpreted broadly enough to encompass values that are at least close enough to the stated value to perform a desired function or achieve a desired result. The stated values include at least the variation to be expected in a suitable manufacturing or production process, and may include values that are within 5%, within 1%, within 0.1%, or within 0.01% of a stated value.

[0176] A person having ordinary skill in the art should realize in view of the present disclosure that equivalent constructions do not depart from the spirit and scope of the present disclosure, and that various changes, substitutions, and alterations may be made to embodiments disclosed herein without departing from the spirit and scope of the present disclosure. Equivalent constructions, including functional “means-plus-function” clauses are intended to cover the structures described herein as performing 35 the recited function, including both structural equivalents that operate in the same manner, and equivalent structures that provide the same function. It is the express intention of the applicant not to invoke means-plus-function or other functional claiming for any claim except for those in which the words ‘means for’ appear together with an associated function. Each addition, deletion, and modification to the embodiments that falls within the meaning and scope of the claims is to be embraced by the claims.

[0177] The terms “approximately,” “about,” and “substantially” as used herein represent an amount close to the stated amount that still performs a desired function or achieves a desired result. For example, the terms “approximately,” “about,” and “substantially” may refer to an amount that is within less than 5% of, within less than 1% of, within less than 0.1% of, and within less than 0.01% of a stated amount. Further, it should be understood that any directions or reference frames in the preceding description are merely relative directions or movements. For example, any references to “up” and “down” or “above” or “below” are merely descriptive of the relative position or movement of the related elements.

[0178] The present invention may be embodied in other specific forms without departing from its spirit or essential characteristics. The described embodiments are to be considered in all respects only as illustrative and not restrictive. The scope of the invention is, therefore, indicated by the appended claims rather than by the foregoing description. All changes that come within the meaning and range of equivalency of the claims are to be embraced within their scope.

Claims

1. A workpiece support material comprising: an upper layer including a first portion and a second portion; and a lower layer opposing the upper layer, wherein the first portion of the upper layer is separable from the lower layer to allow at least a portion of a workpiece material to be inserted there between, and wherein the second portion of the upper layer is secured to the lower layer.
2. The workpiece support material of claim 1, further comprising a spacer disposed between the

upper layer and the lower layer.

3. The workpiece support material of claim 2, wherein the spacer engages the lower layer and the second portion of the upper layer.

4. The workpiece support material of claim 1, further comprising: a first spacer disposed between first and second layers at a first end of the workpiece support material; and a second spacer disposed between the first and second layers at a second end of the workpiece support material, wherein the first spacer is separated from the second spacer by a distance.

5. The workpiece support material of claim 4, wherein: the upper layer is fixed to the lower layer via the first spacer; and the upper layer is removably secured to the lower layer via the second spacer.

6. The workpiece support material of claim 1, further comprising an adhesive layer disposed on a top surface of the upper layer.

7. The workpiece support material of claim 1, wherein the upper layer is secured to the lower layer at only one end of the workpiece support material.

8. The workpiece support material of **1**, wherein the upper layer is secured to the lower layer at two opposing ends of the workpiece support material.

9. The workpiece support material of claim 1, wherein the upper layer is transparent or semi-transparent.

10. The workpiece support material of claim 1, wherein the upper layer comprises a barrier layer configured to protect the portion of the workpiece material disposed between the upper layer and the lower layer of the workpiece support material during use.

11. A workpiece support material comprising: a lower sheet; and an upper sheet having (i) a first portion separable from the lower sheet and (ii) a second portion secured to the lower sheet via an adhesive layer.

12. The workpiece support material of claim 11, further comprising one or more spacers disposed between the upper sheet and the lower sheet.

13. The workpiece support material of claim 11, further comprising: a first spacer disposed between the upper sheet and the lower sheet at a first end of the workpiece support material; and a second spacer disposed between the upper sheet and lower sheet at a second end of the workpiece support material, wherein at least a portion of the first portion of the upper sheet that is separable from the lower sheet extends between the first and second spacers.

14. The workpiece support material of claim 13, wherein the upper sheet is secured to the lower sheet at the first spacer.

15. The workpiece support material of claim 13, wherein the upper sheet is secured to the lower sheet at the second spacer.

16. The workpiece support material of claim 11, further comprising a first adhesive layer secured to the upper sheet and the lower sheet, wherein the first adhesive layer is disposed between the upper sheet and the lower sheet at a first end of the workpiece support material.

17. The workpiece support material of claim 16, further comprising a second adhesive layer disposed between the upper sheet and the lower sheet at a second end of the workpiece support material.

18. The workpiece support material of claim 17, wherein a portion of the upper sheet not secured to the lower sheet and extending between the first adhesive layer and the second adhesive layer is separable from the lower sheet.

19. The workpiece support material of claim 11, wherein the lower sheet extends laterally beyond side edges of the upper sheet.

20. The workpiece support material of claim 11, wherein the first portion of the upper sheet is not secured to the lower sheet.
