

COLLECTING AND PACKAGING DEVICE, AND DESKTOP-ORIENTED COLLECTION APPARATUS WITH THE COLLECTING AND PACKAGING DEVICE

BACKGROUND OF THE INVENTION

FIELD OF THE INVENTION

[0001] The present disclosure relates to a collecting and packaging device capable of collecting and packaging solids, liquids and semi-solids quickly.

DESCRIPTION OF THE PRIOR ART

[0002] In daily life, objects are concentrated, collected and stored usually by hand.

[0003] For instance, unwanted things and dirty things on the top of a table or the top of a desk are removed by hand. When it comes to the dumping of pets' urine and feces, it is the pet keepers who take care of the pets' urine basins and litter boxes whose locations are always fixed. Since urine and feces often appear in the form of a mixture of liquids and semi-solids, the urine basins and litter boxes must be washed and changed frequently. If the urine and feces are not removed from the urine basins and litter boxes timely, the pet keepers' homes will be smelly to the detriment of personal hygiene and living quality. Furthermore, articles or wastes on desktop apparatuses of working desks must be concentrated, collected and removed by hand, albeit in a time-consuming and inconvenient manner. Furthermore, it is difficult, time-consuming and ineffective to clean baby tables and toddler tables with bactericidal baby wipes in order to protect the babies and toddlers against infections which might otherwise result from the babies' and

toddlers' coming into contact with dirty table surfaces or taking foods on the dirty table surfaces.

[0004] For the sake of enhancement of efficiency, speed and convenience, some electrically-driven products, such as electrically-driven garbage cans and electrically-driven sweepers, are devised. Although great convenience is brought by their automation, they have drawbacks as follows: being electrically-driven but structurally unsophisticated, they have to consist of numerous, intricate electronic components; their regular maintenance is so extensively, heavily required that it incurs high costs and high selling prices; and their reliance on electrical outlets or batteries poses a safety risk.

SUMMARY OF THE INVENTION

[0005] It is an objective of the present disclosure to provide a simple, quick and efficient collecting and packaging device to enhance ease of use.

[0006] In order to achieve the above and other objectives, the present disclosure provides a collecting and packaging device which comprises a carrying area, a conveying portion, a supplying portion and an extrusion means. The carrying area is a zone for placing at least one target object. The conveying portion is disposed on one side of the carrying area and adapted to hold a first packaging unit. The first packaging unit has an adhesive surface. The supplying portion is disposed on the other side of the carrying area and adapted to hold a second packaging unit. The second packaging unit is pullable to therefore span the carrying area. In the carrying area, a top surface of the second packaging unit thus pulled functions as a carrying surface which the at least one target object is to be placed on. The extrusion means is for receiving the first and second packaging units thus pulled, allowing the adhesive surface of the first packaging

unit to face the top surface of the second packaging unit. When further pulled, the first and second packaging units exert an extrusion force under which the adhesive surface of the first packaging unit and the top surface of the second packaging unit adhere together. The extrusion means further exerts an extrusion force on the at least one target object placed on the carrying surface such that the at least one target object placed within the carrying area is collectively packaged and turned into a collecting and package plate after passing through the extrusion means.

[0007] In an embodiment of the present disclosure, the collecting and packaging device further comprises a cutting portion disposed behind the extrusion means and operable to cut and sever the collecting and package plate, thereby allowing the collecting and package plate to separate from the first packaging unit and the second packaging unit.

[0008] In an embodiment of the present disclosure, the conveying portion comprises a first roller for holding the first packaging unit at the conveying portion by winding the first packaging unit on the first roller, and the supplying portion comprises a second roller for holding the second packaging unit at the supplying portion by winding the second packaging unit on the second roller.

[0009] In an embodiment of the present disclosure, the supplying portion comprises a positioning roller for abuttingly supporting the second packaging unit thus pulled such that the second packaging unit thus pulled turns aside and spans the carrying area.

[0010] In an embodiment of the present disclosure, the extrusion means is implemented as two extrusion units, and the extrusion units are rollers or abutting components.

[0011] In an embodiment of the present disclosure, the two extrusion units are an abutting component and a resilient roller, respectively. The resilient roller is covered with a resilient material. The first packaging unit is abuttingly supported by the resilient roller to therefore deviate from a movement direction after being outputted from the conveying portion. The abutting component is adjacent to the resilient roller and adapted for abutting. A lamination slit is formed between the resilient roller and the abutting component to receive the first and second packaging units thus pulled, thereby allowing the extrusion force to be exerted through the lamination slit.

[0012] In an embodiment of the present disclosure, the two extrusion units are an abutting component and a roller, respectively. The first packaging unit is abuttingly supported by the roller to therefore deviate from a movement direction after being outputted from the conveying portion. The abutting component is adjacent to the roller and adapted for abutting. A lamination slit is formed between the roller and the abutting component to receive the first and second packaging units thus pulled, thereby allowing the extrusion force to be exerted through the lamination slit. The abutting component is a bottom board. The bottom board extends laterally from below the conveying portion to span the carrying area, lies below the carrying area, and abuttingly supports the second packaging unit. Furthermore, a clamping component is disposed at an end edge of the bottom board to exert a clamping force on the collecting and package plate laminated, so as to pull the first packaging unit and the second packaging unit synchronously as soon as the bottom board is pulled.

[0013] In an embodiment of the present disclosure, the conveying portion comprises a first roller for holding the first packaging unit at the conveying portion by winding the first packaging unit on the first roller. One of the two extrusion units

is a combination of the first roller and a stretching-retracting control assembly. The other one of the two extrusion units is an abutting element. The stretching-retracting control assembly presses resiliently against two ends of an axle of the first roller such that the first roller is normally positioned proximate to the carrying surface. A lamination slit is formed between the first roller and the abutting element to receive the first and second packaging units thus pulled, thereby allowing the extrusion force to be exerted through the lamination slit.

[0014] In an embodiment of the present disclosure, the first packaging unit is a sheet capable of being reeled in. The first packaging unit has another surface opposing the adhesive surface. The opposing other surface has a release film layer.

[0015] In an embodiment of the present disclosure, the second packaging unit comprises a composite plate formed by stacking a water-absorbing layer and a leak proofing layer. The water-absorbing layer is disposed on top of the second packaging unit to function as the carrying surface.

[0016] In an embodiment of the present disclosure, a lateral surface of the first packaging unit is adhesive in its entirety to form the adhesive surface.

[0017] In an embodiment of the present disclosure, the collecting and packaging device further comprises a bottom board. The bottom board is pullable to move in a direction parallel to the carrying area, the bottom board being disposed below the second packaging unit pulled to span the carrying area. A clamping portion is disposed at an edge of the bottom board and positioned proximate to the conveying portion. After passing through the extrusion means, the first packaging unit and the second packaging unit adhere together to form a collecting and package plate. The clamping portion clamps the collecting and package plate and the bottom board together such that the first packaging unit

and the second packaging unit are pulled synchronously as soon as the bottom board is pulled away from the conveying portion.

[0018] In order to achieve the above and other objectives, the present disclosure further provides a collecting and packaging device which comprises a conveying portion, a supplying portion, and an extrusion portion. The conveying portion stores a first packaging unit. The first packaging unit has a packaging surface. The supplying portion stores a second packaging unit. As soon as the second packaging unit is pulled out of the supplying portion, a top surface of a portion of the second packaging unit functions as a carrying surface for placing at least one target object. The extrusion portion receives the first packaging unit and the second packaging unit. The extrusion portion exerts an extrusion force under which the packaging surface of the first packaging unit and the top surface of the second packaging unit come into contact with each other. The extrusion portion exerts an extrusion force on the at least one target object placed on the carrying surface such that the at least one target object is collectively packaged and turned into a collecting and package plate after passing through the extrusion portion. The collecting and packaging device further comprises a cutting portion disposed behind the extrusion portion and operable to cut and sever the collecting and package plate, thereby allowing the collecting and package plate to separate from the first packaging unit and the second packaging unit.

[0019] In an embodiment of the present disclosure, the collecting and packaging device further comprises a drive motor and a control portion. The drive motor is configured to drive at least one of the extrusion portion and the cutting portion according to a control signal such that the first packaging unit and the second packaging unit are pulled. The control portion is coupled to the drive motor to enable the drive motor according to a command so as to pull the first packaging

unit and the second packaging unit. The command comprises an external operation command, a detection result command, or a timing command.

[0020] In order to achieve the above and other objectives, the present disclosure further provides a desktop-oriented collection apparatus which comprises the collecting and packaging device and a support assembly. The support assembly is for mounting the collecting and packaging device in place. The support assembly has an opening defining a carrying area. The carrying surface of the second packaging unit exposed from the opening and a rim of the opening together define a desktop, so as to collect and package a target object within the carrying area on the desktop. The desktop-oriented collection apparatus is generally defined as an apparatus mounted on any other apparatus, device or object to serve collecting-related and packaging-related purposes in appropriate places, for example, collecting pets' urine and feces, cleaning baby/toddler tables, collecting patients' urine and feces at their bedside, collecting wastes from operating room tables, collecting urine and feces from home care apparatuses, and collecting urine and feces from training toilets for babies and toddlers.

[0021] Therefore, embodiments of the present disclosure illustrate on an exemplary basis the technical features of the constituent elements and operation of the collecting and packaging device, render simple, quick and efficient a collecting and packaging process for use in daily life, medical services, home care and pet keeping, and thus are conducive to a smart lifestyle.

BRIEF DESCRIPTION OF THE DRAWINGS

[0022] FIG. 1 is a schematic view of a collecting and packaging device according to the first embodiment of the present disclosure;

[0023] FIG. 2 is a schematic view of the first aspect of a conveying portion in the collecting and packaging device of the present disclosure;

[0024] FIG. 3 is a schematic view of the second aspect of the conveying portion in the collecting and packaging device of the present disclosure;

[0025] FIG. 4 is a schematic view of the third aspect of the conveying portion in the collecting and packaging device of the present disclosure;

[0026] FIG. 5 is a schematic view of the first aspect of an extrusion means in the collecting and packaging device of the present disclosure;

[0027] FIG. 6 is a schematic view of the second aspect of the extrusion means in the collecting and packaging device of the present disclosure;

[0028] FIG. 7 is a schematic view of the third aspect of the extrusion means in the collecting and packaging device of the present disclosure;

[0029] FIG. 8 is a schematic view of the fourth aspect of the extrusion means in the collecting and packaging device of the present disclosure;

[0030] FIG. 9 is a schematic view of the fifth aspect of the extrusion means in the collecting and packaging device of the present disclosure;

[0031] FIG. 10 is a schematic view of the sixth aspect of the extrusion means in the collecting and packaging device of the present disclosure;

[0032] FIG. 11 is a schematic view of the collecting and packaging device according to the second embodiment of the present disclosure;

[0033] FIG. 12 is a schematic view of the fourth aspect of the conveying portion in the collecting and packaging device of the present disclosure;

[0034] FIG. 13 is a schematic view of the collecting and packaging device according to the third embodiment of the present disclosure;

[0035] FIG. 14 is a schematic view of the arrangement of rollers according to the third embodiment of the present disclosure;

[0036] FIG. 15 is a schematic view of another aspect of a cutting portion in the collecting and packaging device of the present disclosure;

[0037] FIG. 16 is a schematic view of yet another aspect of the cutting portion in the collecting and packaging device of the present disclosure;

[0038] FIG. 17 is a schematic view of the collecting and packaging device according to the fourth embodiment of the present disclosure;

[0039] FIG. 18 is a schematic view of the collecting and packaging device according to the fifth embodiment of the present disclosure;

[0040] FIG. 19 is a schematic view of the collecting and packaging device according to the sixth embodiment of the present disclosure;

[0041] FIG. 20 is a top schematic view of the collecting and packaging device according to the sixth embodiment of the present disclosure; and

[0042] FIG. 21 is a function block diagram of the collecting and packaging device of the present disclosure.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[0043] Objectives, features and advantages of the present disclosure are fully illustrated by preferred embodiments, depicted by drawings, and described below. Terms used herein, such as “include,” “comprise,” “have” and the like are intended for non-exclusive elements. For instance, a component or structure comprising a plurality of elements must be interpreted in such a manner to not only include elements disclosed herein, but also include elements not explicitly disclosed herein but intrinsically required for the unit, component, portion or structure.

[0044] Referring to FIG. 1, there is shown a schematic view of a collecting and packaging device according to the first embodiment of the present disclosure. The collecting and packaging device comprises a conveying portion 100, a supplying

portion 200, an extrusion means FP and a carrying area A. The carrying area A is a zone for carrying solids, liquids, semi-solids or any other substances to be collected and packaged. The conveying portion 100 and the supplying portion 200 together define the carrying area A. For instance, in the embodiment shown in FIG. 1, the carrying area A is defined between the conveying portion 100 and the supplying portion 200, but the present disclosure is not limited thereto. In a variant embodiment, the carrying area A is defined to be located at the other places.

[0045] In the embodiment shown in FIG. 1, the conveying portion 100 is disposed on one side of the carrying area A and opposite the supplying portion 200 disposed on the other side of the carrying area A. The conveying portion 100 holds a first packaging unit 110. The supplying portion 200 holds a second packaging unit 210. The second packaging unit 210 held by the supplying portion 200 can be pulled in the direction toward the conveying portion 100; hence, the second packaging unit 210 thus pulled spans the carrying area A so as to serve as a carrier. The second packaging unit 210 within the carrying area A serves as the carrier. Within this area, the top surface of the second packaging unit 210 functions as a carrying surface.

[0046] Within the carrying area A, the carrying surface of the carrier carries a surface of solids, liquids, semi-solids or any other substances, whereas the carrier with the carrying surface is the second packaging unit 210 pulled to the carrying area A. A surface of the first packaging unit 110 faces the top surface of the second packaging unit 210 and is hereinafter referred to as the packaging surface. A subsequent packaging process is performed on the packaging surface such that the solids, liquids, semi-solids or any other substances to be collected are packaged between the first packaging unit 110 and the second packaging unit 210. The packaging surface of the first packaging unit 110 and the top surface of the

second packaging unit 210 are fixed to each other by adhesion, thermal adhesion or any other related means; hence, the carried objects are confined to between the first packaging unit 110 and the second packaging unit 210. The packaging process involves sealing all the surfaces of the packaging unit, sealing all the edges of the packaging unit, or sealing a portion of the edges of the packaging unit. In an embodiment aspect, the packaging surface of the first packaging unit 110 may also function as an adhesive surface. The adhesive surface, that is, the packaging surface of the first packaging unit 110, has its entire surface or its edges coated with an adhesive. Alternatively, the packaging surface of the first packaging unit 110 is processed by any appropriate means to render it adhesive. Therefore, the first packaging unit 110 and the second packaging unit 210 come close to each other such that the carried objects are confined to between the first packaging unit 110 and the second packaging unit 210. The thermal adhesion is effectuated by an extrusion means capable of heating.

[0047] The packaging units are each stacked consecutively in a layered pattern so as to be held in the conveying portion 100 and the supplying portion 200, respectively. The description below is exemplified by the supplying portion 200. Referring to FIG. 2, there is shown a schematic view of the first aspect of the supplying portion 200 in the collecting and packaging device of the present disclosure. The supplying portion 200 has a casing 201. The second packaging unit 210 is stacked consecutively in a horizontal layered pattern so as to be held in the casing 201. Furthermore, the description below is also exemplified by the supplying portion 200. Referring to FIG. 3, there is shown a schematic view of the second aspect of the supplying portion 200 in the collecting and packaging device of the present disclosure. The supplying portion 200 has a casing 201 and a pushing unit 202. The second packaging unit 210 is stacked consecutively in a

vertical layered pattern so as to be held in the casing 201. When pushed by the pushing unit 202, the second packaging unit 210 is pulled more easily because it is pushed toward the exit of the casing 201 as a result of its decreasing quantity; in this regard, the pushing unit 202 is optional and dispensable. Furthermore, the packaging units are wound on rollers and thus held in the conveying portion 100 and the supplying portion 200, respectively. Referring to FIG. 4, there is shown a schematic view of the third aspect of the supplying portion 200 in the collecting and packaging device of the present disclosure. The description below is also exemplified by the supplying portion 200. The supplying portion 200 comprises a second roller 203. The second packaging unit 210 is wound on the second roller 203 and thus held in the supplying portion 200.

[0048] After the extrusion means FP has received the first packaging unit 110 and the second packaging unit 210, the first packaging unit 110 and the second packaging unit 210 are pulled further (manually or in an electrically-driven manner) such that the first packaging unit 110 and the second packaging unit 210 pass through the extrusion means FP. The extrusion means FP exerts an extrusion force under which the adhesive surface of the first packaging unit 110 and the top surface of the second packaging unit 210 come into contact with each other. From the perspective of aspects of adhesion, the adhesive surface of the first packaging unit 110 faces the top surface of the second packaging unit 210. As mentioned before, the top surface of the second packaging unit 210 carries the solids, liquids, semi-solids or any other substances to be collected, and the adhesive surface of the first packaging unit 110 is adhesive; hence, under the extrusion force exerted by the extrusion means FP, the first packaging unit 110 and the second packaging unit 210 come close to each other and thus adhere together to form a collecting and package plate. Then, the solids, liquids, semi-solids or any other substances

to be collected are enclosed in the collecting and package plate, that is, enclosed in between the first packaging unit 110 and the second packaging unit 210. Under the extrusion force, the distribution of the solids, liquids, semi-solids or any other substances enclosed in between the first packaging unit 110 and the second packaging unit 210 within the post-extrusion zone is uniform because of the extrusion means FP.

[0049] The extrusion means FP is an optional component disposed outside the conveying portion 100 and the supplying portion 200 and operated independently thereof. Furthermore, the extrusion means FP is implemented as a combination of some of the components inside the conveying portion 100 and optional components. In this aspect, some of the components inside the conveying portion 100 are intrinsically designed to serve a conveying purpose and additionally provided to perform the function of the extrusion means FP. Furthermore, the extrusion means FP is implemented as a component disposed in the collecting and packaging device and intrinsically designed to serve another purpose. In this aspect, the component functioning as the extrusion means FP not only performs its intrinsic function inside the collecting and packaging device, but also optionally performs the function of the extrusion means FP.

[0050] Therefore, regardless of whether implemented as an optional component or a shared component, the extrusion means FP in the aforesaid exemplary embodiment is implemented as two components of the extrusion units to exert the extrusion force on the passing packaging units. Therefore, the extrusion means FP not only ensures that the first packaging unit 110 and the second packaging unit 210 are received and positioned between two extrusion units, but also ensures that the two extrusion units exert the extrusion force on the first and second packaging units 110, 210 being moved and passed between the

two extrusion units. The two extrusion units combine to form one single composite by integration, integral formation or any other means of integration such that the single composite functions as the extrusion means FP. In the aspect of thermal adhesion, the extrusion units of the extrusion means FP each comprise a heat source such that the extrusion units are capable of heating, for example, mounting a plurality of heating elements on the surfaces or inside the extrusion units. The combination of components used inside the extrusion means FP is also known as an extrusion portion.

[0051] The extrusion units are rollers or abutting components. The combination of the two extrusion units is a combination of two rollers, a combination of two abutting components, or a combination of a roller and an abutting component. For example, when the extrusion means FP is implemented as a single composite, the single composite includes therein: (1) two rollers, (2) two abutting components, or (3) a roller and an abutting component. The rollers are capable of rolling and thus conducive to conveyance of the packaging units. A lamination slit is formed between the two extrusion units to not only receive the first packaging unit 110 and the second packaging unit 210 which have been pulled but also facilitate the exertion of the extrusion force. In an embodiment, the extrusion units or extrusion portion can span the first packaging unit and the second packaging unit to therefore exert an extrusion force. For instance, the length of the rollers functioning as the extrusion means FP equals the width of the first packaging unit or the second packaging unit substantially to allow the adhesive surface of the first packaging unit and the top surface of the second packaging unit to adhere together as much as possible.

[0052] Regarding the arrangement of the roller, the roller operates in conjunction with the abutting component to therefore exert an extrusion force in

the direction where lamination is required. The roller is a resilient roller covered with a resilient material. Positioned at a fixed axle position and made of the resilient, covering material (such as silica gel, rubber or sponge), the resilient roller exerts an extrusion force in the direction where lamination is required, so as to exercise better control over the strength of a lamination force. A stretching-retracting control assembly capable of exerting a displacement force is pivotally connected to the two ends of the axle of the roller to allow the roller to exert an extrusion force in the lamination direction, so as to control the lamination of the resilient, covering material.

[0053] Furthermore, in an embodiment, the resilient roller operates in conjunction with the stretching-retracting control assembly to control the strength of the lamination force better, and thus it is feasible to set different levels of lamination force strength for use in different usage environments. For instance, the first setting requires disabling the capability of the stretching-retracting control assembly to stretch/retract and enabling the lamination control of the resilient, covering material. The second setting requires enabling the capability of the stretching-retracting control assembly to stretch/retract and enabling the lamination control of the resilient, covering material. For instance, if the first packaging unit is made of a material which stretches and retracts readily, the second setting is good at extending the service life of the second packaging unit by its enclosing large objects.

[0054] Similar to the aforesaid options for the roller, in addition to a conventional, non-resilient abutting component, the abutting component is provided in aspects as follows: (1) the abutting component has an end portion adapted to come into contact with the extrusion ends of the packaging units and made of a resilient material (or the abutting component is made of a resilient material); (2) the

stretching-retracting control assembly capable of exerting a displacement force is pivotally connected to the two ends of the abutting component; (3) the abutting component has an end portion made of a resilient material, and the stretching-retracting control assembly capable of exerting a displacement force is pivotally connected to the two ends of the abutting component. The stretching-retracting control assembly is, for example, one capable of generating a resilient force, such as a spring or a leaf spring.

[0055] Referring to FIG. 5, there is shown a schematic view of the first aspect of an extrusion means in the collecting and packaging device of the present disclosure. In the first aspect of the extrusion means, the two extrusion units are optional components disposed outside the conveying portion 100 and the supplying portion 200 and operated independently thereof. The extrusion means FP comprises a resilient roller FP11 and an abutting element FP21 which function as the extrusion units, respectively, so as to generate an extrusion force. The first packaging unit 110 is abuttingly supported by the resilient roller FP11 to therefore deviate from a movement direction after being outputted from the conveying portion 100. The abutting element FP21 disposed below the resilient roller FP11 abuts against the first packaging unit 110, so as to generate the extrusion force. The resilient roller FP11 is a cylindrical roller covered with a resilient material. When the extrusion units do not include any resilient material, it is feasible to set a predetermined strength of the extrusion force by controlling the distance between the abutting element FP21 and each extrusion unit. For example, the smaller the distance, the stronger the extrusion force.

[0056] Referring to FIG. 6, there is shown a schematic view of the second aspect of the extrusion means in the collecting and packaging device of the present disclosure. In the second aspect of the extrusion means, the two

extrusion units are optional components disposed outside the conveying portion 100 and the supplying portion 200 and operated independently thereof. The extrusion means FP comprises the resilient roller FP11 and a second resilient roller FP12 which function as the extrusion units, respectively, so as to generate an extrusion force. The first packaging unit 110 is abuttingly supported by the resilient roller FP11 to therefore deviate from a movement direction after being outputted from the conveying portion 100. The second resilient roller FP12 disposed below the resilient roller FP11 abuts against the first packaging unit 110. Likewise, when the extrusion units do not include any resilient material, it is feasible to set a predetermined strength of the extrusion force by controlling the distance between the two rollers.

[0057] Referring to FIG. 7, there is shown a schematic view of the third aspect of the extrusion means in the collecting and packaging device of the present disclosure. In the second aspect of the extrusion means, the two extrusion units are optional components disposed outside the conveying portion 100 and the supplying portion 200 and operated independently thereof. The extrusion means FP comprises the resilient roller FP11 and the second resilient roller FP12 which function as the extrusion units, respectively, so as to generate an extrusion force. The first packaging unit 110 is abuttingly supported by the resilient roller FP11 to therefore deviate from a movement direction after being outputted from the conveying portion 100. The second packaging unit 210 is abuttingly supported by the resilient roller FP12 to therefore deviate from a movement direction after being outputted from the supplying portion 200. The resilient roller FP11 and the second resilient roller FP12 abut against each other and thus exert an extrusion force on the passing packaging units. Likewise, when the extrusion units do not include

any resilient material, it is feasible to set a predetermined strength of the extrusion force by controlling the distance between the two rollers.

[0058] Referring to FIG. 8, there is shown a schematic view of the fourth aspect of the extrusion means in the collecting and packaging device of the present disclosure. In the fourth aspect of the extrusion means, the two extrusion units are optional components disposed outside the conveying portion 100 and the supplying portion 200 and operated independently thereof. The extrusion means FP comprises a combination of a resilient roller FP11 and a stretching-retracting control assembly FP31, which functions as an extrusion unit, and an abutting element FP21 functioning as another extrusion unit, so as to generate an extrusion force. The first packaging unit 110 is abuttingly supported by the resilient roller FP11 to therefore deviate from a movement direction after being outputted from the conveying portion 100. The resilient roller FP11 further controls the strength of the extrusion force exerted in the lamination direction (downward) by the stretching-retracting control assembly FP31 mounted at two ends of the axle of the resilient roller FP11, so as to operate in conjunction with the abutting element FP21 below. In some embodiments, the resilient roller FP11 is deemed part of the conveying portion 100; hence, the resilient roller FP11 not only has its intrinsic function, but also performs the function of the extrusion means FP. In this aspect, one extrusion unit is a combination of a first roller 103 and the stretching-retracting control assembly FP31 and thus dispenses with the resilient roller FP11, whereas the other extrusion unit is the abutting element FP21; the first roller 103 is intrinsically capable of conveying and holding an object and is able to perform the function of the extrusion means FP additionally.

[0059] Referring to FIG. 9, there is shown a schematic view of the fifth aspect of the extrusion means in the collecting and packaging device of the present

disclosure. In the fifth aspect of the extrusion means, each of the two extrusion units has its intrinsic function and is able to perform the function of the extrusion means FP additionally. The extrusion means FP comprises a resilient roller FP11 (functioning as the extrusion unit and belonging to the conveying portion 100 together with the first roller 103) and a bottom board FP41, so as to generate an extrusion force. The first packaging unit 110 is wound on the first roller 103 and abuttingly supported by the resilient roller FP11 to therefore deviate from a movement direction after being outputted from the first roller 103. The bottom board FP41 carries the second packaging unit 210 supplied from the second roller 203. The bottom board FP41 provides a supporting force and thus operates in conjunction with the resilient roller FP11, so as to generate the extrusion force. In the direction indicated in FIG. 9, a clamping component 400 (*i.e.*, a clamping tool or a clamper provided on an exemplary basis and shown in the diagram) is disposed at the left edge of the bottom board FP41 to clamp the first and second packaging units 110, 210 laminated (and turned into the collecting and package plate.) The first packaging unit 110 and the second packaging unit 210 are synchronously pulled as soon as the bottom board FP41 is further pulled leftward (pulled and moved across a plane parallel to the carrying area A), and thus the solids, liquids, semi-solids or any other substances to be collected can be packaged inside the collecting and package plate. The two ends of the axle of the second roller 203 are mounted on a stretching-retracting control assembly 231 of the supplying portion 200 such that the second roller 203 stays horizontal as preconfigured even though the second packaging unit 210 is becoming less available. The bottom board FP41 is also applicable to any other embodiments and embodiment aspects of the present disclosure.

[0060] Referring to FIG. 10, there is shown a schematic view of the sixth aspect of the extrusion means in the collecting and packaging device of the present disclosure. In the sixth aspect of the extrusion means, the supplying portion 200 comprises the second roller 203 and a positioning roller 204. The second packaging unit 210 thus pulled is abuttingly supported by the positioning roller 204 to therefore deviate from its initial movement direction and span the carrying area A. Owing to the positioning roller 204, the second packaging unit 210 stays horizontal and flat within the carrying area A. The second packaging unit 210 within the carrying area A is unlikely to tilt, despite the decreasing radius of the outermost winding of the second packaging unit 210 on the second roller 203 in the course of the usage of the second packaging unit 210.

[0061] Referring to FIG. 11, there is shown a schematic view of the collecting and packaging device according to the second embodiment of the present disclosure. In the second embodiment of the present disclosure, the collecting and packaging device comprises a conveying portion 100, a carrying portion 206, a carrying area A on the carrying portion 206, and an extrusion means FP. The second embodiment is distinguished from the first embodiment by technical features described below. In the second embodiment, the second packaging unit 210 is held below the carrying area A (in the first embodiment, the second packaging unit 210 is held on one side of the carrying area A and thus opposite the conveying portion 100). The other components and elements in the second embodiment are applicable to various changes disclosed in the first embodiment. The collecting and packaging device in the second embodiment even comprises the aforesaid bottom board FP41.

[0062] Regarding the collecting and packaging device in the second embodiment of the present disclosure, the carrying portion 206 is for holding a

second packaging unit 210 stacked. After the second packaging unit 210 has spanned the carrying area A, the top surface of the second packaging unit 210 functions as a carrying surface, and the carrying surface carries the solids, liquids, semi-solids or any other substances to be collected and packaged. As shown in FIG. 11, the top of the casing of the carrying portion 206 abuttingly supports the second packaging unit 210. Furthermore, the collecting and packaging device in the second embodiment of the present disclosure comprises the bottom board FP41 shown in FIG. 10. The bottom board FP41 extends laterally from below the conveying portion 100 to span the carrying area A, lies above the carrying portion 206, abuttingly supports the second packaging unit 210, and operates in conjunction with a clamping component.

[0063] Referring to FIG. 12, there is shown a schematic view of the fourth aspect of the conveying portion in the collecting and packaging device of the present disclosure. Regarding the collecting and packaging device in the second embodiment of the present disclosure, in the fourth aspect of the conveying portion 100, the conveying portion 100 undergoes reciprocating motion on the top of the casing of the carrying portion 206. The first roller 103 of the conveying portion 100 and the top of the casing of the carrying portion 206 function as the two extrusion units of the extrusion means FP, respectively. As mentioned before, components with intrinsic functions perform an extrusion function. A rail assembly is disposed at the edge of the carrying portion 206. The rail assembly comprises two rails FP51 disposed at two edges of the carrying portion 206, respectively. Only one of the rails FP51 is shown in FIG. 12, because FIG. 12 is a side view.

[0064] The first roller 103 is mounted on the two rails FP51 and thus is movable from one side of the carrying area A (which is achieved by balls or a movable pivotal connection, designed from a mechanical perspective) to the other

side of the carrying area A such that, by undergoing reciprocating motion, the first roller 103 moves back and forth between the two sides of the carrying area A. With the first roller 103 being operable to undergo reciprocating motion across the carrying area A, a user may exert a downward force to effectuate extrusion between the first roller 103 and the top of the casing (*i.e.*, the carrying portion of the abutting component), so as to generate the extrusion force required for extrusion-induced adhesion of the first packaging unit 110 and the second packaging unit 210. The stretching-retracting control assembly is disposed at the two ends of the axle of the first roller 103, as mentioned before, to further augment the extrusion force.

[0065] The first roller 103 undergoes a one-instance, left-to-right journey to allow the adhesive surface of the first packaging unit 110 and the top surface of the second packaging unit 210 to adhere together. Afterward, the first packaging unit 110 is cut such that part of the first packaging unit 110 adhered to the second packaging unit 210 can separate from the original first packaging unit 110. Afterward, the first roller 103 undergoes a plurality of instances of reciprocating motion to ensure that the first packaging unit 110 and the second packaging unit 210 are firmly adhered together. Finally, the second packaging unit 210 is cut again such that part of the second packaging unit 210 adhered to the first packaging unit 110 can separate from the original second packaging unit 210, so as to form a self-contained collecting and package plate. The second packaging unit 210 is smoothly pulled to the carrying area A by a carrying roller 207 disposed at the casing of the carrying portion 206.

[0066] In this embodiment, a release film layer is disposed on a surface of the first packaging unit 110 and is opposite the adhesive surface of the first packaging unit 110. Specifically speaking, the adhesive surface of the first packaging unit 110

faces the top surface of the second packaging unit 210, and the first roller 103 moves rightward to therefore adhere to the top surface of the second packaging unit 210. With the release film layer being opposite the adhesive surface of the first packaging unit 110, the first packaging unit 110 adhered to the second packaging unit 210 has the release film layer facing upward. The first roller 103 undergoes reciprocating motion on the release film layer and thus brings a lamination effect on the first and second packaging units 110, 210 adhered together.

[0067] Referring to FIG. 13, there is shown a schematic view of the collecting and packaging device according to the third embodiment of the present disclosure. The third embodiment of the present disclosure provides a wastes collecting and packaging container for use by pets. In the embodiment, objects, liquids or the like are collected and packaged conveniently by the collecting and packaging device such that the user can quickly package pets' urine, feces or the like. By contrast, the prior art discloses removing pets' urine, feces or the like by hand, by a sweeping tool, or by a means of washing to the detriment of ease of use. Therefore, pets' urine, feces or the like can be completely packaged and turned into a collecting and package plate, using the collecting and packaging device of the present disclosure, with advantages as follows: low chance of odor spreading, low chance of leakage, enhanced ease of use, speedy operation, quick cleaning, and providing pets and pet keepers with hygienic, clean and comfortable homes. Furthermore, the collecting and packaging device of the present disclosure is suitable for removing human urine and feces and thus applicable to a patient's bedside in a ward as well as toilet chairs and urine chairs in home care, for example.

[0068] Referring to FIG. 13 and FIG. 14, there is shown in FIG. 14 a schematic view of the arrangement of rollers according to the third embodiment of the present disclosure. The supplying portion 200 supplies the second packaging unit 210. The second packaging unit 210 serves as a carrier for carrying pets' urine, feces or the like. The second packaging unit 210 is pulled and thereby spans the carrying area A, so as to form a carrying surface within the carrying area A. Then, the conveying portion 100 supplies the first packaging unit 110. The extrusion means FP receives the first and second packaging units 110, 210 thus pulled. The adhesive surface of the first packaging unit 110 faces the top surface of the second packaging unit 210. In practice, after pets have discharged urine and feces (or wastes) and left the collecting and packaging device, the first packaging unit 110 and the second packaging unit 210 are pulled (in a manual or electrically-driven way). Then, the extrusion means FP generates an extrusion force under which the adhesive surface of the first packaging unit 110 and the top surface of the second packaging unit 210 adhere together to therefore form a single collecting and package plate. Afterward, a cutting portion 300 of the collecting and packaging device of the present disclosure cuts and severs the single collecting and package plate to therefore separate it from the original first and second packaging units 110, 210. Afterward, the user discards the severed collecting and package plate, thereby finalizing the cleaning process. At this point in time, the clean second packaging unit 210 is laid at the bottom of the wastes collecting and packaging container for use by pets again.

[0069] Preferably, the adhesive surface of the first packaging unit 110 is full and complete (that is, it covers the inherent surface of the first packaging unit 110 entirely); hence, the user can determine freely the length of the single collecting and package plate. Therefore, in this embodiment, the length of the single

collecting and package plate is subject to changes according to positions of the pets' urine and feces (or wastes) on the second packaging unit 210 or quantity of the pets' urine and feces (or wastes), so as to avoid a waste of the first packaging unit 110 and the second packaging unit 210.

[0070] The cutting portion 300, applicable to the embodiments of the present disclosure, is fixed in place inside the collecting and packaging device to cut the collecting and package plate. As shown in FIG. 13, the cutting portion 300 is fixedly disposed beside the conveying portion 100 to operate by a cutting mechanism in conjunction with a blade component, a rail and an applied-force operating portion. The cutting mechanism involves moving the blade component along a path defined by the rail to perform a cutting process. In the third embodiment of the present disclosure, the wastes collecting and packaging container for use by pets has a base. The base comprises a bottom structure and a sidewall structure. The sidewall structure defines a carrying area. The conveying portion is disposed on the sidewall structure.

[0071] Referring to FIG. 15, there is shown a schematic view of another aspect of a cutting portion in the collecting and packaging device of the present disclosure. FIG. 15 illustrates on an exemplary basis an aspect in which the cutting portion is a cutter 300'. The cutter 300' is lowered to sever the first packaging unit 110 and the second packaging unit 210. Referring to FIG. 16, there is shown a schematic view of yet another aspect of the cutting portion in the collecting and packaging device of the present disclosure. FIG. 16 illustrates on an exemplary basis an aspect in which the cutting portion is a serrate knife 300". The serrate knife 300" severs the first packaging unit 110 and the second packaging unit 210, as soon as the user exerts a force to lift the first packaging unit 110 and the second packaging unit 210.

[0072] Referring to FIG. 17, there is shown a schematic view of the collecting and packaging device according to the fourth embodiment of the present disclosure. In the fourth embodiment of the present disclosure, the wastes collecting and packaging container for use by pets not only has the collecting and packaging device but also has a base 410. As shown in FIG. 17, the wastes collecting and packaging container for use by pets has a supplying portion 200, a conveying portion 100 and an extrusion means FP which are mounted inside the base 410. The cutting portion 300 is disposed behind the extrusion means FP. The base 410 comprises a bottom structure and a sidewall structure. The sidewall structure defines the carrying area A. Both the conveying portion 100 and the supplying portion 200 are disposed on the sidewall structure. In the embodiment illustrated by FIG. 11, the supplying portion 200 is disposed below the carrying area A, and the conveying portion 100 is disposed on the sidewall structure.

[0073] Referring to FIG. 18, there is shown a schematic view of the collecting and packaging device according to the fifth embodiment of the present disclosure. In the fifth embodiment of the present disclosure, a pet-oriented house not only has the collecting and packaging device but also has a base 410 and a casing 420. As shown in FIG. 18, the pet-oriented house has a supplying portion 200, a conveying portion 100 and an extrusion means FP which are mounted inside the base 410. The cutting portion 300 is disposed behind the extrusion means FP. The casing 420 is mounted on the base 410. The casing 420 and the base 410 are demountable. Therefore, the casing 420 is demountably mounted on the sidewall structure of the base 410. The casing 420 defines an internal space dedicated to pets' activities and formed by upward extension of the bottom structure of the base 410. The internal space is in communication with the carrying area A. A receiving chamber is disposed on top of the casing 420 to

contain pet-related articles and the like conveniently. With the casing 420 being demountable, the user can determine the direction in which the first packaging unit 110 and the second packaging unit 210 are to be pulled. As shown in FIG. 18, the first packaging unit 110 and the second packaging unit 210 are pulled leftward; hence, if the base 410 is rotated by 180 degrees before the casing 420 is mounted in place, the first packaging unit 110 and the second packaging unit 210 will be pulled rightward. Therefore, the usage of the collecting and packaging device according to the fifth embodiment of the present disclosure is flexible and convenient.

[0074] Referring to FIG. 19, there is shown a schematic view of the collecting and packaging device according to the sixth embodiment of the present disclosure. According to the present disclosure, the collecting and packaging device also serves as a quick-clean desktop-oriented collection apparatus for dirty things or wastes on the tops of desks. For instance, desktops of strollers or any other children desk apparatuses can be cleaned conveniently, quickly and efficiently with the collecting and packaging device of the present disclosure. As shown in FIG. 19, the conveying portion 100 and the supplying portion 200 are hidden beneath the desktop. The carrying area A, which the second packaging unit 210 spans, is exposed from the desktop. The extrusion means FP, capable of effectuating downward extrusion, collection and packaging, is formed on one side of the desktop. Therefore, the collecting and package plate is not only directly collected and placed beneath the desktop but also quickly severed by the cutting portion.

[0075] Referring to FIG. 20, there is shown a top schematic view of the collecting and packaging device according to the sixth embodiment of the present disclosure. As shown in FIG. 20, regarding the configuration of the collecting and

packaging device, a support assembly 500 of a desktop-oriented collection apparatus is directly mounted on a conventional desk, or the support assembly 500 is directly implemented as a desk apparatus. The support assembly 500 encloses and fixes the collecting and packaging device in place. FIG. 20 shows only the carrying area A and the second packaging unit 210 within the carrying area A. The support assembly 500 has a recess (interior) which the collecting and packaging device is mounted inside. The carrying area A is defined in an opening 501 of the top surface of the recess. The top surface of the recess, the rim of the top surface, and the carrying surface of the second packaging unit 210 exposed from the opening 501 together form a desktop. The second packaging unit 210 of the collecting and packaging device extends from one side of the support assembly 500 and spans the top surface (*i.e.*, the carrying surface formed within the carrying area A) of the recess, and then merges with the other side of the support assembly 500, so as to form the collecting and package plate together with the first packaging unit 110 under the action of the extrusion portion. Therefore, the target object within the carrying area A on the desktop can be collected and packaged.

[0076] The collecting and packaging device is mounted on and fixed to the support assembly 500. A fixing portion is disposed at the bottom of the support assembly 500. The support assembly 500 is fixed to another desk through the fixing portion (for example, using a clamping tool.) The carrying area on the top of the collecting and packaging device functions as a desktop. Therefore, the collecting and packaging device of the present disclosure is suitable for use with workplace desks, children desks (desks for use by infants, toddlers and children), general-purpose desks, operating room tables and the like to achieve convenient, quick cleaning.

[0077] All the embodiments of the present disclosure are subject to variations and thus applicable to training toilets for babies and toddlers, medical urine collectors for patients and the elderly, as well as toilet chairs, urine chairs and defecation chairs in home care, to collect urine and feces from babies, infants, toddlers, patients and the elderly, and seal-package the collected urine and feces quickly and conveniently, so as to prevent odor spreading, enhance hygiene, and achieve efficient cleaning. Furthermore, regarding their application in medical services and nursing, all the embodiments of the present disclosure are effective in sealing and preserving specimens. It is because, in each instance of its collection, the urine and feces are packaged and turned into a single package plate. Then, the package plate is stored, recorded and followed up. Furthermore, all the embodiments of the present disclosure overcome drawbacks of the prior art as follows: difficulties in cleaning urine and feces containers; and reuse-induced cross infections and specimen contamination.

[0078] In the embodiments and embodiment aspects of the present disclosure, the first packaging unit 110 is a sheet which is not ductile, preferably a ductile sheet. Preferably, a release film layer is opposite the adhesive surface of the first packaging unit 110 to reduce resistance to the pulling of the first packaging unit 110 and thus render device operation smooth.

[0079] The second packaging unit 210 is a sheet which is not ductile or a ductile sheet, preferably a composite plate formed by stacking a water-absorbing layer and a leak proofing layer. The water-absorbing layer is disposed on top of the second packaging unit 210 to function as the carrying surface. As soon as objects, liquids or the like to be collected fall onto the second packaging unit 210, they are absorbed by or adsorbed on the composite plate such that the solids, liquids, semi-solids or any other substances to be collected can be fixed to the second

packaging unit 210 before being covered by the first packaging unit 110 and pressed against by the extrusion means FP. The first packaging unit 110 and/or the second packaging unit 210 comprises ductile film, such as PE film (polyethylene), PVC film (polyvinyl chloride) and LLDPE film (linear low-density polyethylene). The water-absorbing layer and the leak proofing layer of the second packaging unit 210 each have a layered structure typical of diapers.

[0080] In the embodiments of the present disclosure, the collecting and packaging device drives the conveying portion, supplying portion and even cutting portion with an electrically-driven motor and thereby dispenses with steps, such as manual pulling and cutting. Moreover, when modularized, electrically-controlled, and smartly controlled (or even remote controlled), the collecting and packaging device packages efficiently the objects, liquids and the like to be collected. The electrically-controlled driving of the conveying portion, supplying portion and even cutting portion is carried out separately or coordinately with electrically-controlled and driven apparatuses or rollers well-known among persons skilled in the art and thus is, for the sake of brevity, not described herein.

[0081] Referring to FIG. 21, there is shown a function block diagram of the collecting and packaging device of the present disclosure. The collecting and packaging device comprises a conveying portion 100, a supplying portion 200 and an extrusion portion FP. The conveying portion 100 stores the first packaging unit with a packaging surface. The supplying portion 200 stores the second packaging unit. After the second packaging unit has been pulled out of the supplying portion 200, part of the top surface of the second packaging unit functions as a carrying surface for collecting the carried objects. The extrusion portion FP provides an extrusion means. The extrusion portion FP receives the first packaging unit and the second packaging unit. The extrusion portion FP generates an extrusion force

under which the packaging surface of the first packaging unit and the top surface of the second packaging unit come into contact with each other.

[0082] FIG. 21 illustrates on an exemplary basis an embodiment aspect of electrically-controlled configuration of the collecting and packaging device of the present disclosure. As shown in the diagram, a drive motor 610 is configured to drive the extrusion portion FP according to a control signal S1 such that the first packaging unit and the second packaging unit is pulled. The control portion 620 is coupled to the drive motor 610. The control portion 620 enables the drive motor 610 according to a command S2 such that the drive motor 610 drives the extrusion portion FP (for example, drives at least one extrusion unit) so as to pull the first packaging unit and the second packaging unit. The command S2 is an external operation command (for example, for instructing the user to start the collecting and packaging device by hand), a detection result command (for example, optionally, the collecting and packaging device further includes a detection portion for detecting and determining whether any target object is present within the carrying area, and the detection result command enables the drive motor 610 upon an affirmative determination), or a timing command (for example, setting a fixed point in time for enabling the drive motor 610), so as to further enhance ease of use. FIG. 21 merely illustrates on an exemplary basis an embodiment aspect of electrical control of the extrusion portion FP. Since the other components and elements of the collecting and packaging device can also be electrically-controlled, the exemplary embodiment illustrated by FIG. 21 is not intended to restrict the aforesaid electrical control aspect.

[0083] Therefore, embodiments of the present disclosure illustrate on an exemplary basis the technical features of the constituent elements and operation of the collecting and packaging device, render simple, quick and efficient a

collecting and packaging process. Moreover, the collecting and packaging device allows the user to determine the scope of intended collection and packaging and thereby determine the length by which the first packaging unit and the second packaging unit are to be pulled, so as to not only extend the service life of the packaging units (dispensing with the need to change all the packaging units within the whole carrying area in a single instance), but also promote a smart lifestyle.

[0084] The present disclosure is disclosed above by preferred embodiments.

However, persons skilled in the art should understand that the preferred embodiments are illustrative of the present disclosure only, but shall not be interpreted as restrictive of the scope of the present disclosure. Hence, all equivalent modifications and replacements made to the aforesaid embodiments shall fall within the scope of the present disclosure. Accordingly, the legal protection for the present disclosure shall be defined by the appended claims.

CLAIMS

What is claimed is:

1. A collecting and packaging device, comprising:
 - a carrying area being a zone for placing at least one target object ;
 - a conveying portion disposed on a side of the carrying area and adapted to hold a first packaging unit, the first packaging unit having an adhesive surface;
 - a supplying portion disposed on another side of the carrying area and adapted to hold a second packaging unit, the second packaging unit being pullable to therefore span the carrying area, wherein, in the carrying area, a top surface of the second packaging unit thus pulled functions as a carrying surface which the at least one target object is to be placed on; and
 - an extrusion means for receiving the first and second packaging units thus pulled, allowing the adhesive surface of the first packaging unit to face the top surface of the second packaging unit such that, when further pulled, the first and second packaging units exert an extrusion force under which the adhesive surface of the first packaging unit and the top surface of the second packaging unit adhere together, the extrusion means exerting an extrusion force on the at least one target object placed on the carrying surface such that the at least one target object placed within the carrying area is collectively packaged and turned into a collecting and package plate after passing through the extrusion means.
2. The collecting and packaging device of claim 1, further comprising a cutting portion disposed behind the extrusion means and operable to cut and sever the collecting and package plate adhered and formed as a result of the passage of the

first packaging unit and the second packaging unit through the extrusion means, thereby allowing the collecting and package plate to separate from the first packaging unit and the second packaging unit.

3. The collecting and packaging device of claim 2, wherein the conveying portion comprises a first roller for holding the first packaging unit at the conveying portion by winding the first packaging unit on the first roller, and the supplying portion comprises a second roller for holding the second packaging unit at the supplying portion by winding the second packaging unit on the second roller.

4. The collecting and packaging device of claim 2, wherein the supplying portion comprises a positioning roller for abuttingly supporting the second packaging unit thus pulled such that the second packaging unit thus pulled turns aside and spans the carrying area.

5. The collecting and packaging device of claim 2, wherein the extrusion means is implemented as two extrusion units, and the extrusion units are rollers or abutting components.

6. The collecting and packaging device of claim 5, wherein the two extrusion units are an abutting component and a resilient roller, respectively, the resilient roller being covered with a resilient material, the first packaging unit being abuttingly supported by the resilient roller to therefore deviate from a movement direction after being outputted from the conveying portion, whereas the abutting component being adjacent to the resilient roller and adapted for abutting, wherein a lamination slit is formed between the resilient roller and the abutting component to receive the first and second packaging units thus pulled, thereby allowing the extrusion force to be exerted through the lamination slit.

7. The collecting and packaging device of claim 5, wherein the two extrusion units are an abutting component and a roller, respectively, the first packaging unit

being abuttingly supported by the roller to therefore deviate from a movement direction after being outputted from the conveying portion, whereas the abutting component being adjacent to the roller and adapted for abutting, wherein a lamination slit is formed between the roller and the abutting component to receive the first and second packaging units thus pulled, thereby allowing the extrusion force to be exerted through the lamination slit, the abutting component being a bottom board, wherein the bottom board extends laterally from below the conveying portion to span the carrying area, lies below the carrying area, and abuttingly supports the second packaging unit.

8. The collecting and packaging device of claim 7, wherein a clamping component is disposed at an end edge of the bottom board to exert a clamping force on the collecting and package plate laminated, so as to pull the first packaging unit and the second packaging unit synchronously as soon as the bottom board is pulled.

9. The collecting and packaging device of claim 5, wherein the conveying portion comprises a first roller for holding the first packaging unit at the conveying portion by winding the first packaging unit on the first roller, whereas one of the two extrusion units is a combination of the first roller and a stretching-retracting control assembly, and another one of the two extrusion units is an abutting element, the stretching-retracting control assembly pressing resiliently against two ends of an axle of the first roller such that the first roller is normally positioned proximate to the carrying surface, with a lamination slit formed between the first roller and the abutting element to receive the first and second packaging units thus pulled, thereby allowing the extrusion force to be exerted through the lamination slit.

10. The collecting and packaging device of any one of claims 1-9, wherein the first packaging unit is a sheet capable of being reeled in, and the first packaging unit has another surface opposing the adhesive surface, the opposing other surface having a release film layer.
11. The collecting and packaging device of claim 10, wherein the second packaging unit comprises a composite plate formed by stacking a water-absorbing layer and a leak proofing layer, with the water-absorbing layer disposed on top of the second packaging unit to function as the carrying surface.
12. The collecting and packaging device of claim 10, wherein a lateral surface of the first packaging unit is adhesive in its entirety to form the adhesive surface.
13. The collecting and packaging device of claim 11, further comprising a bottom board, the bottom board being pullable to move in a direction parallel to the carrying area, the bottom board being disposed below the second packaging unit pulled to span the carrying area, with a clamping portion disposed at an edge of the bottom board, positioned proximate to the conveying portion, and adapted to clamp the collecting and package plate and the bottom board together such that the first packaging unit and the second packaging unit are pulled synchronously as soon as the bottom board is pulled away from the conveying portion.
14. A collecting and packaging device, comprising:
- a conveying portion for storing a first packaging unit, the first packaging unit having a packaging surface;
 - a supplying portion for storing a second packaging unit, wherein, as soon as the second packaging unit is pulled out of the supplying portion, a top surface of a portion of the second packaging unit functions as a carrying surface for placing at least one target object; and

an extrusion portion for receiving the first packaging unit and the second packaging unit, exerting an extrusion force under which the packaging surface of the first packaging unit and the top surface of the second packaging unit come into contact with each other, and exerting an extrusion force on the at least one target object placed on the carrying surface such that the at least one target object is collectively packaged and turned into a collecting and package plate after passing through the extrusion portion.

15. The collecting and packaging device of claim 14, further comprising a cutting portion disposed behind the extrusion portion and operable to cut and sever the collecting and package plate, thereby allowing the collecting and package plate to separate from the first packaging unit and the second packaging unit.

16. The collecting and packaging device of claim 15, further comprising:

a drive motor configured to drive at least one of the extrusion portion and the cutting portion according to a control signal such that the first packaging unit and the second packaging unit are pulled; and

a control portion coupled to the drive motor to enable the drive motor according to a command so as to pull the first packaging unit and the second packaging unit, the command comprising an external operation command, a detection result command, or a timing command.

17. A desktop-oriented collection apparatus, comprising:

the collecting and packaging device of any one of claims 1-16;

and

a support assembly for mounting the collecting and packaging device in place, the support assembly having an opening defining a carrying area, wherein the carrying surface of the second packaging unit

exposed from the opening and a rim of the opening together define a desktop, so as to collect and package a target object within the carrying area on the desktop.