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Dunivan

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(54) **BANDSAW AUTOMATED PORTIONING SAW SYSTEM WITH VISUAL FEEDBACK AND METHOD OF USE**

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A22C 17/00 (2006.01)
B23D 53/00 (2006.01)
B23D 59/00 (2006.01)

(52) **U.S. Cl.**
CPC ***A22C 17/0086*** (2013.01); ***B23D 53/008*** (2013.01); ***B23D 59/001*** (2013.01)

(58) **Field of Classification Search**
CPC A22C 17/0086
See application file for complete search history.

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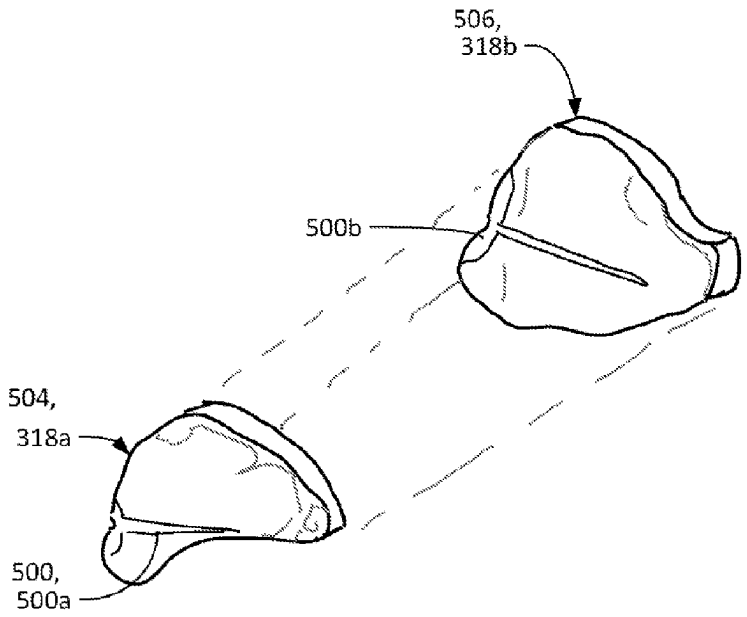
(57) **ABSTRACT**

An automated saw wherein: the automated saw comprises one or more visual sensors, a meat positioning assembly. The automated saw is configured to analyze an uncut meat and calculate one or more cutting depths for one or more cut portions from the uncut meat. The uncut meat comprises a first end and a second end. The first end of the uncut meat can be analyzed by the automated saw by: capturing a first slice image of the first end, locating a first bone configuration and a configuration of one or more meat portions in relation to the first bone configuration, and measuring portions of the one or more meat portions to categorize which among one or more cuts of meat is presented at the first end of the uncut meat. The automated saw calculates a first cutting depth for a first meat portion.

12 Claims, 12 Drawing Sheets



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2025/0000106	A1 *	1/2025	Kim	B25J 13/085

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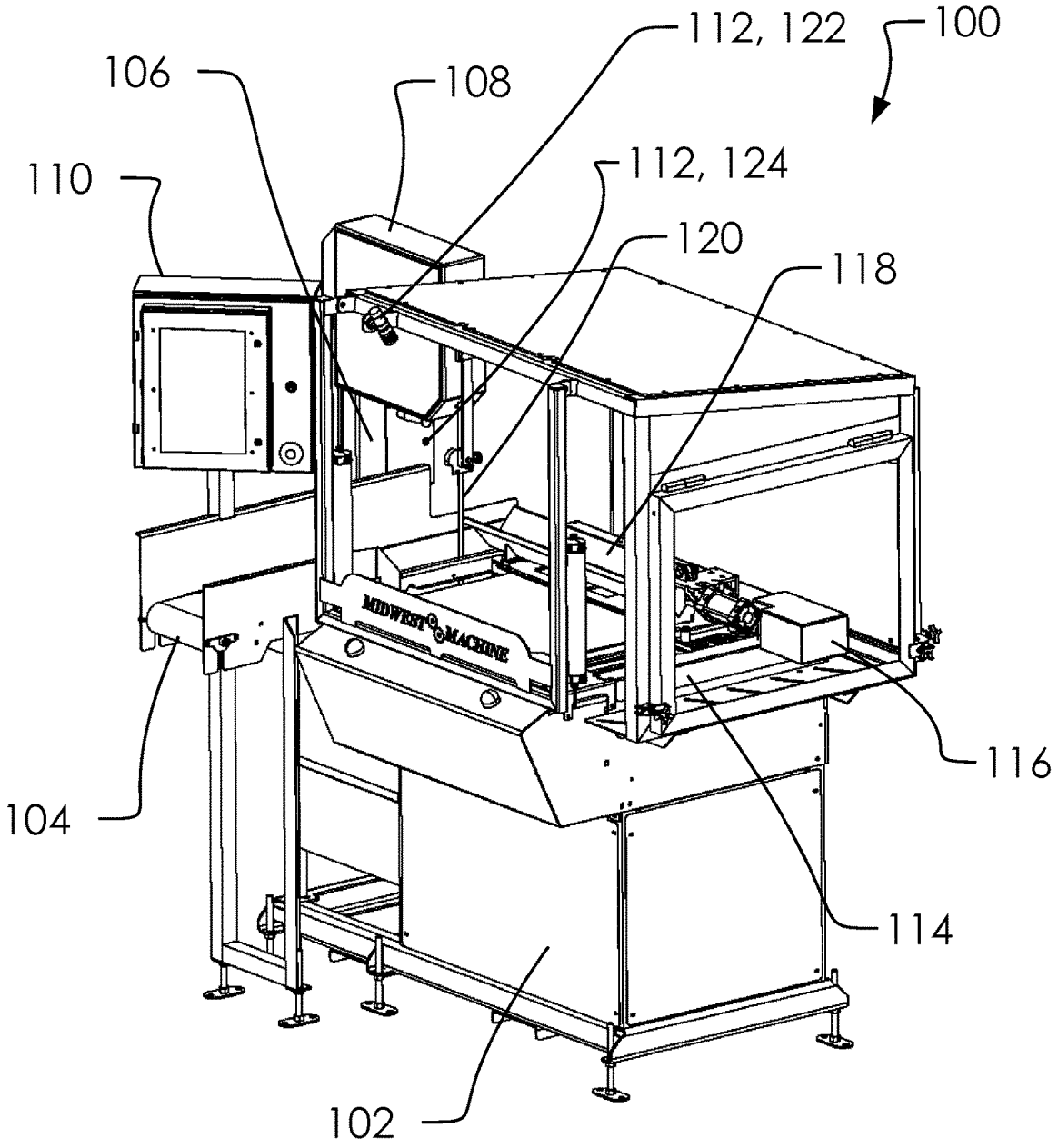
112, 122
100
106
108
110
112, 124
120
118
MIDWEST MACHINE
116
104
114
102

FIG. 1

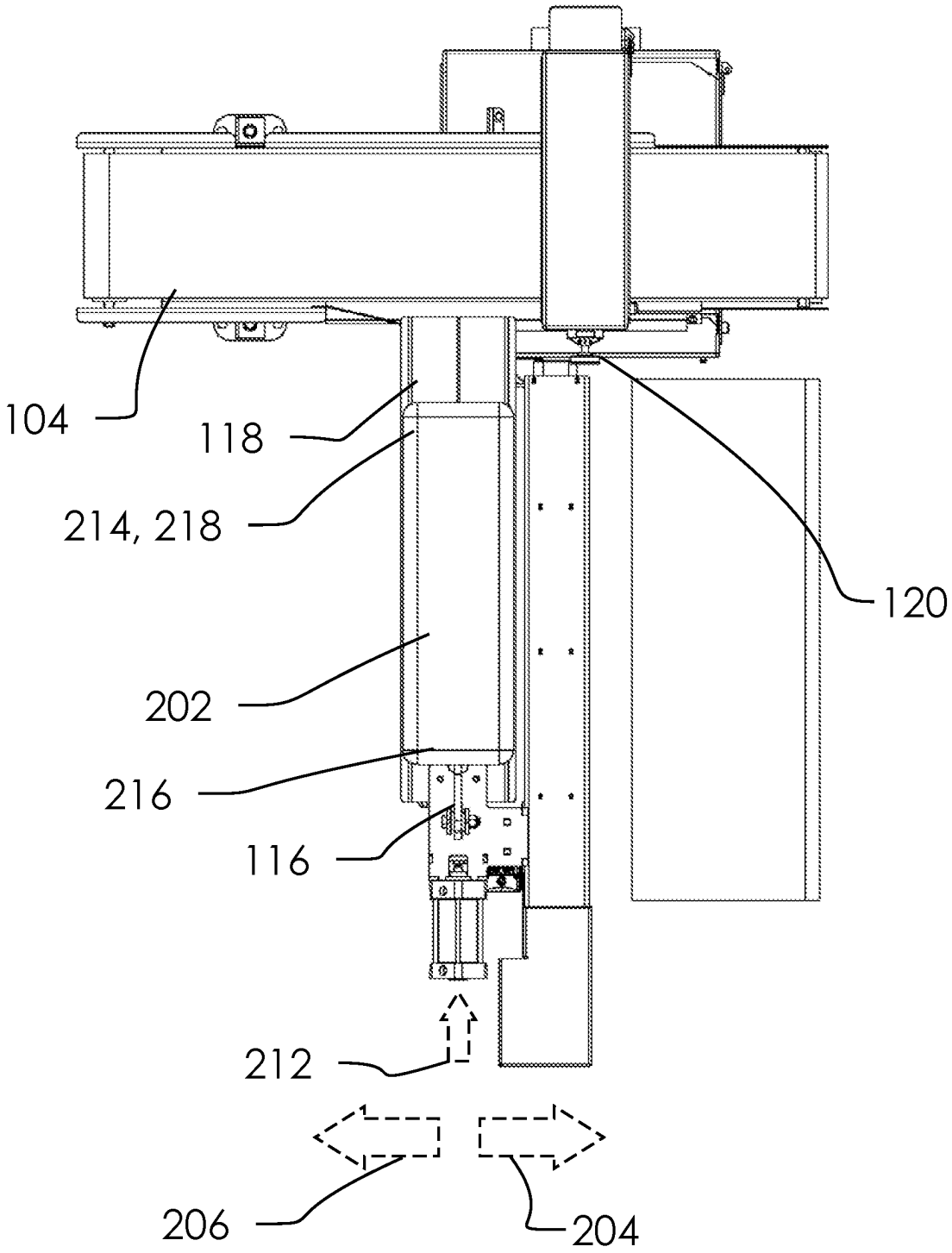

FIG. 2

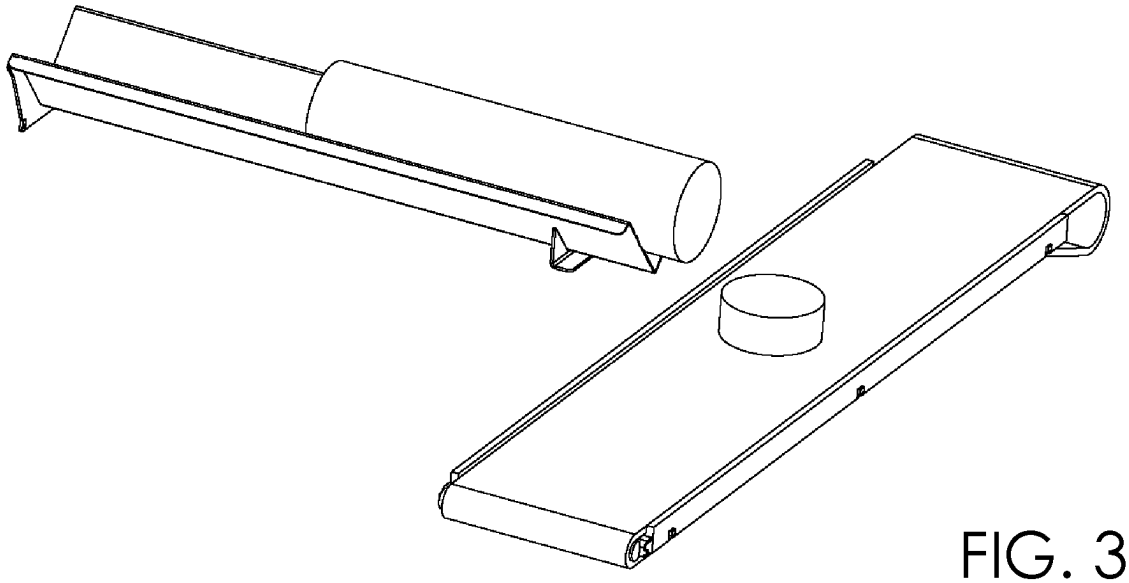

FIG. 3A

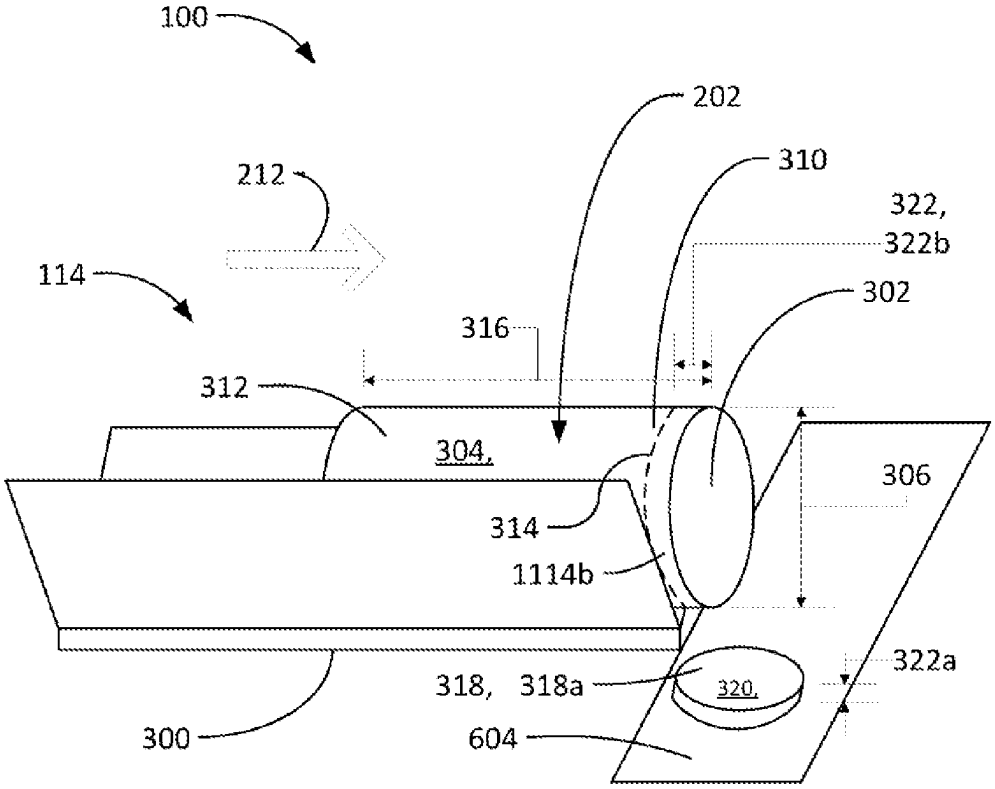
100
202
212
310
322,
322b
114
302
316
312
304,
306
314
1114b
322a
318, 318a
320,
300
604

FIG. 3B

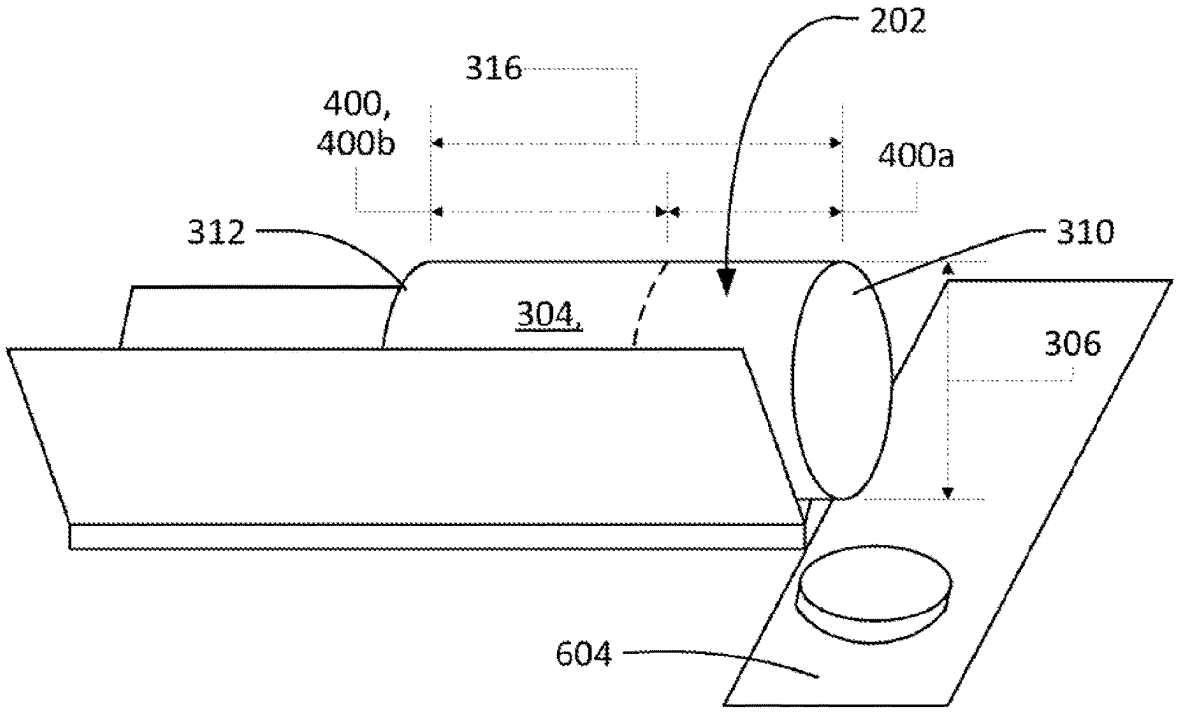

FIG. 4

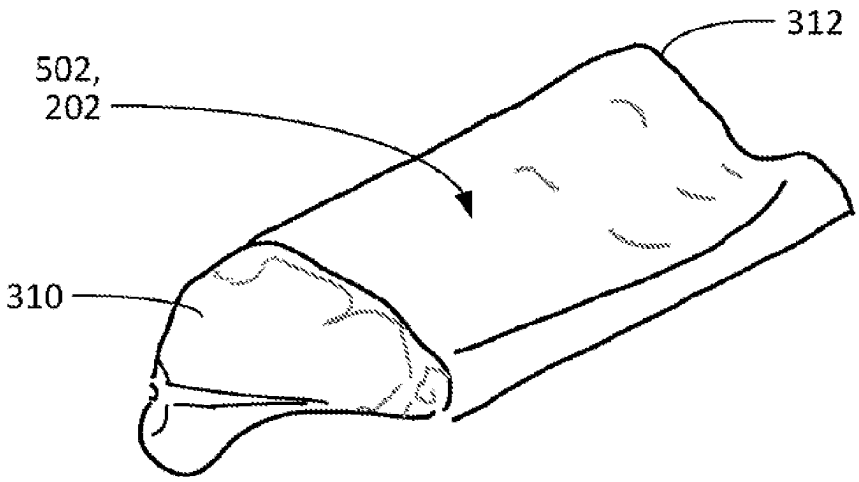

FIG. 5A

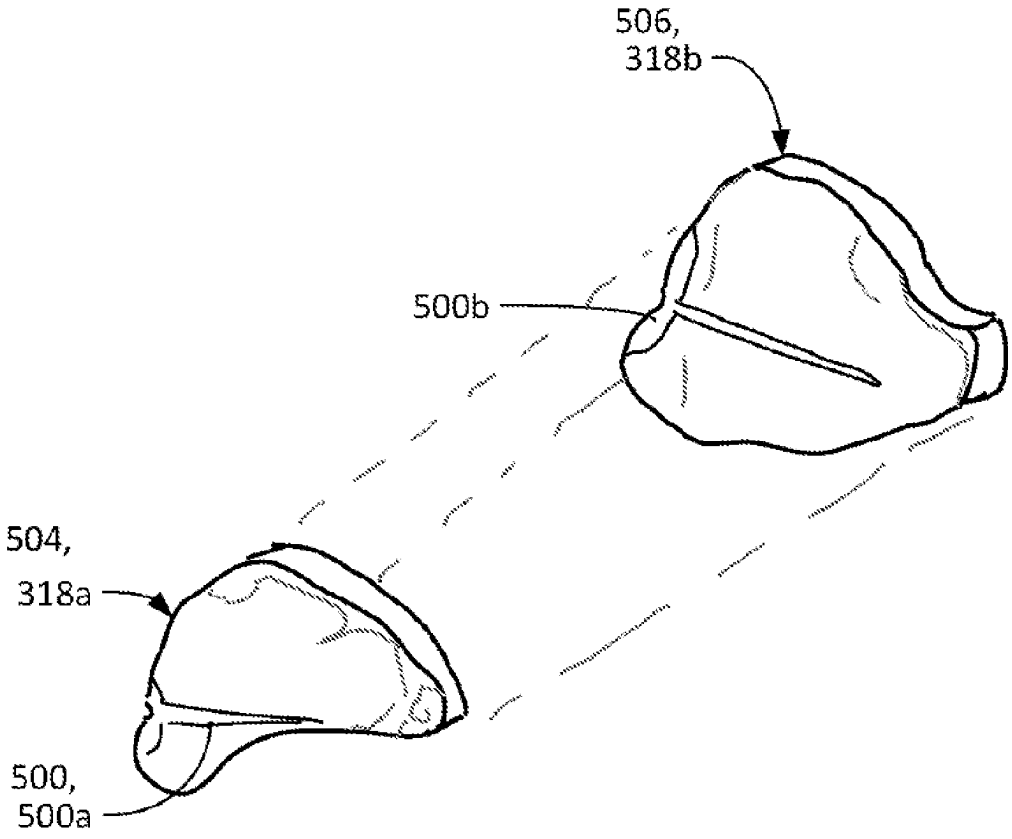

FIG. 5B

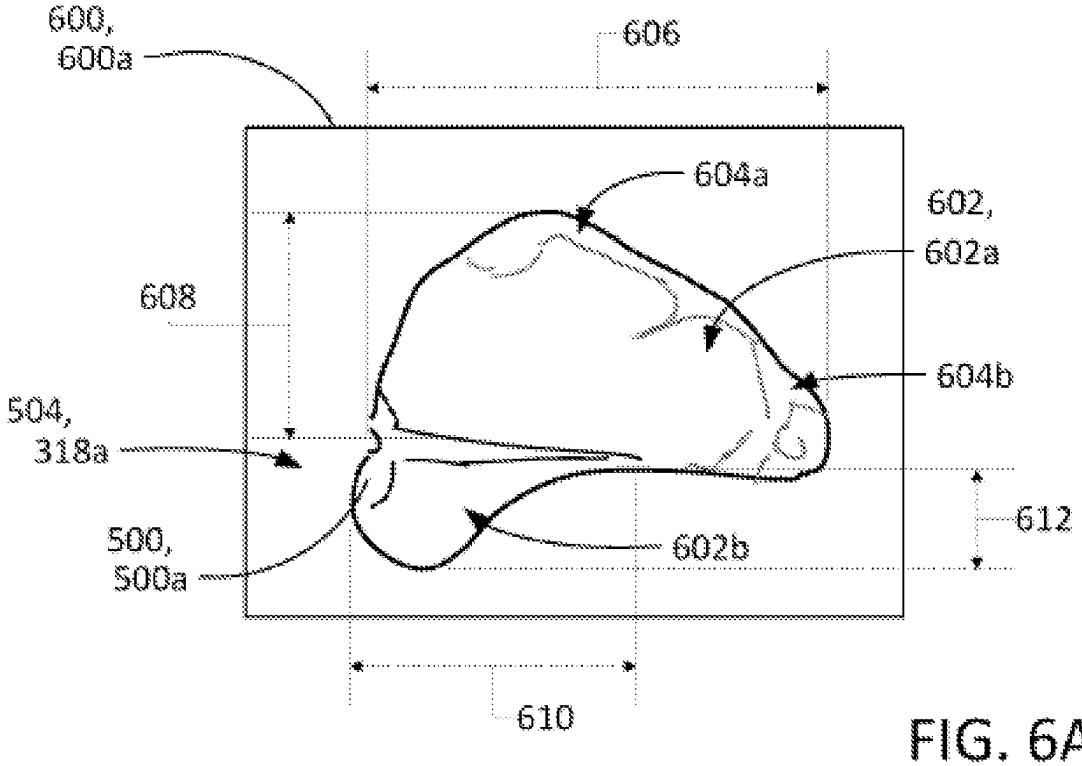
600,
600a
606
604a
602,
602a
608
604b
504,
318a
612
500,
500a
602b
610

FIG. 6A

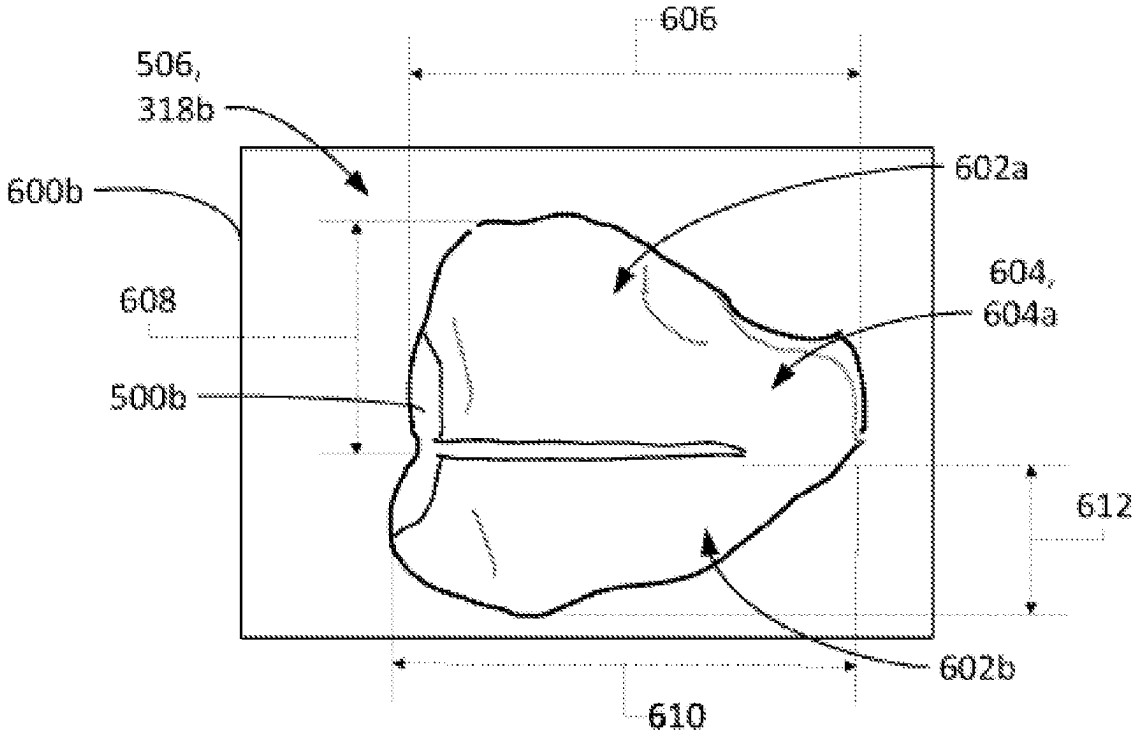
606
506,
318b
602a
600b
604,
604a
608
500b
612
602b
610

FIG. 6B

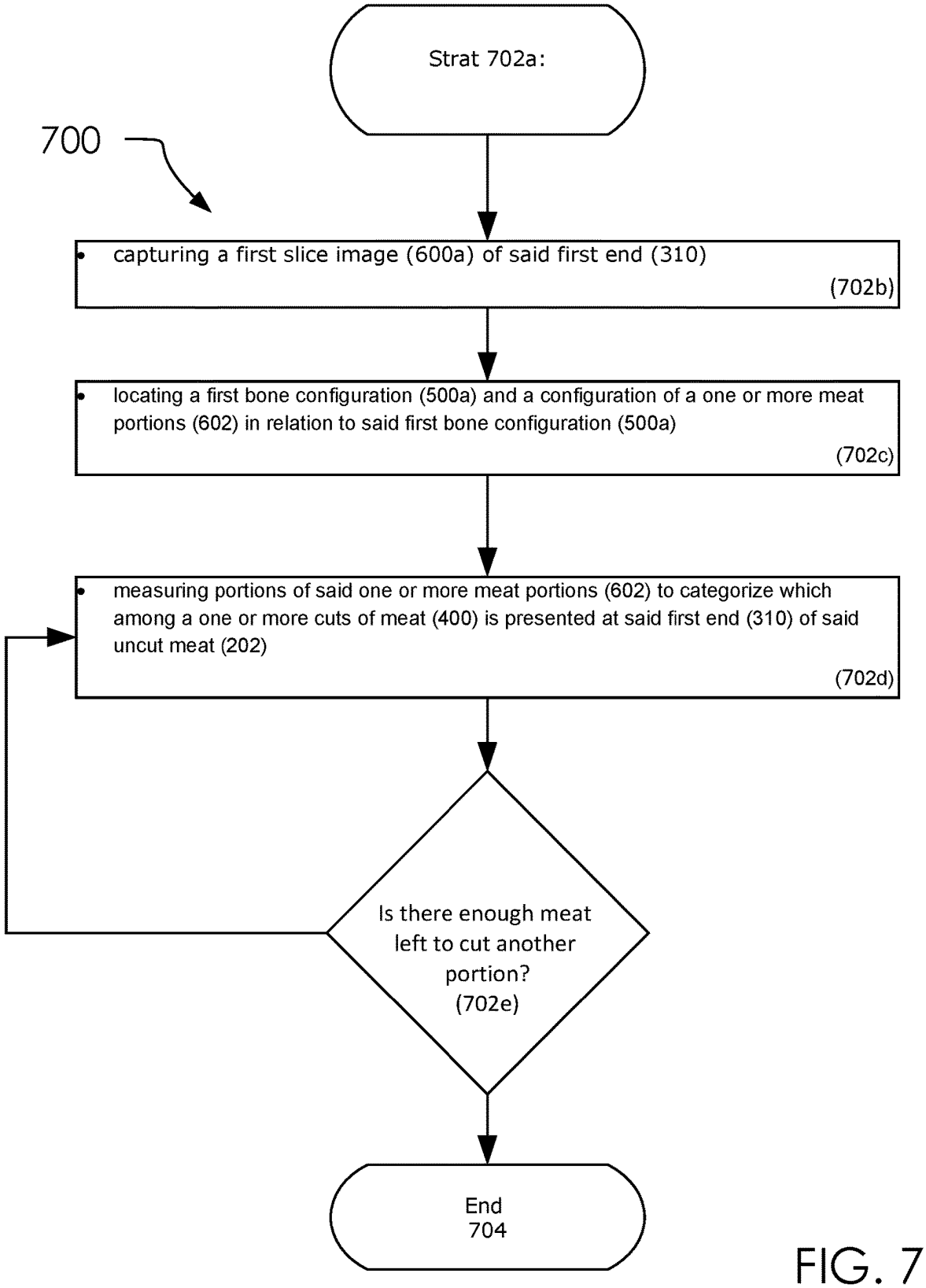
Strat 702a:
700
capturing a first slice image (600a) of said first end (310)
(702b)
locating a first bone configuration (500a) and a configuration of a one or more meat portions (602) in relation to said first bone configuration (500a)
(702c)
measuring portions of said one or more meat portions (602) to categorize which among a one or more cuts of meat (400) is presented at said first end (310) of said uncut meat (202)
(702d)
Is there enough meat left to cut another portion?
(702e)
End
704

FIG. 7

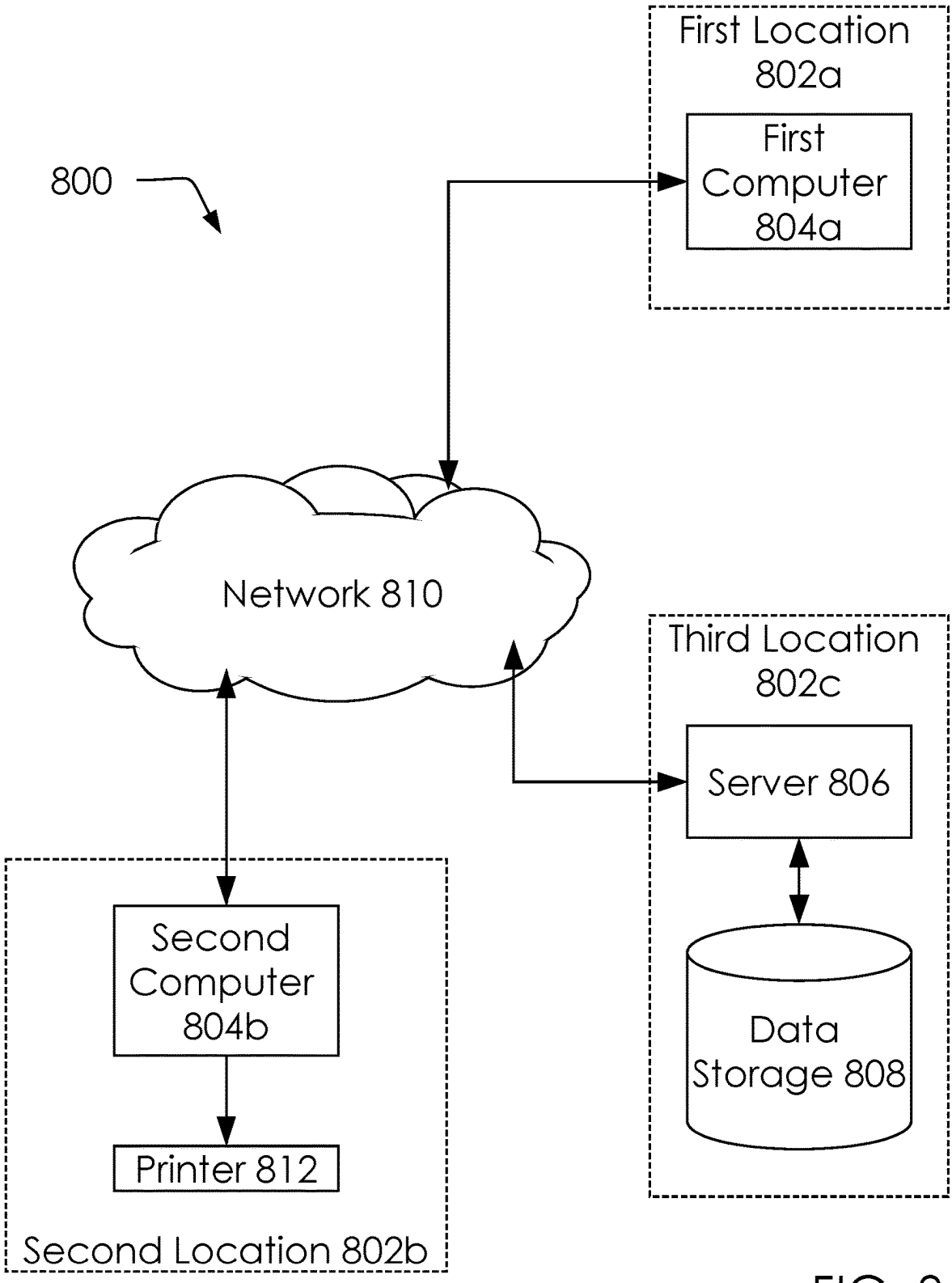
First Location
802a
First
Computer
804a
800
Network 810
Third Location
802c
Server 806
Data
Storage 808
Second
Computer
804b
Printer 812
Second Location 802b

FIG. 8

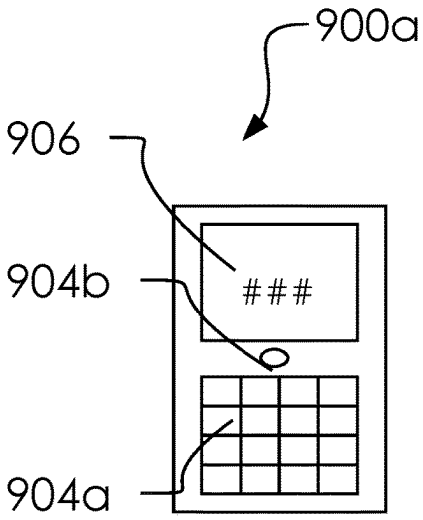

FIG. 9A

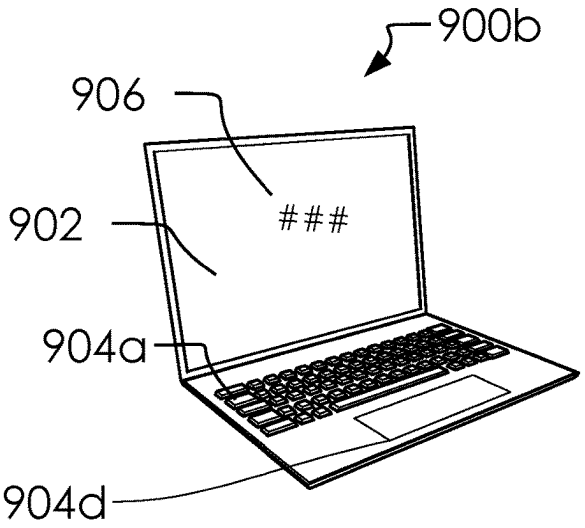

FIG. 9B

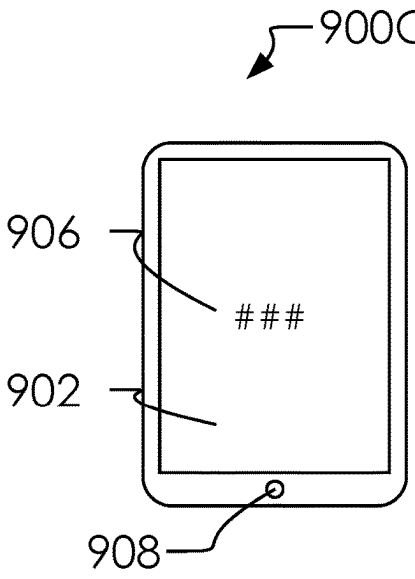

FIG. 9C

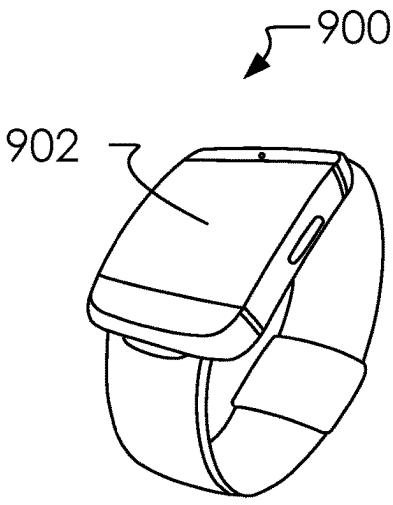

FIG. 9D

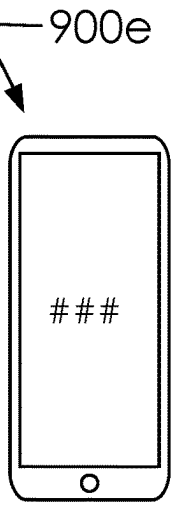

FIG. 9E

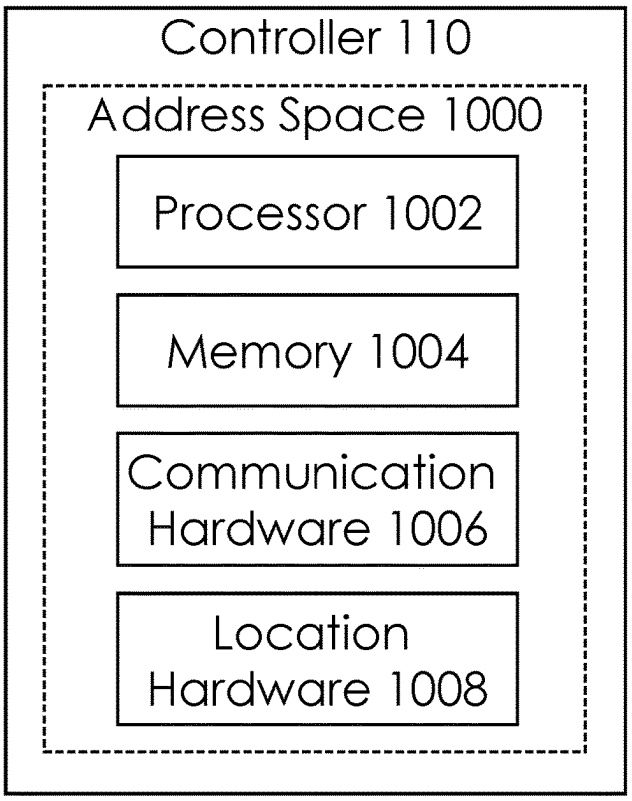

FIG. 10A

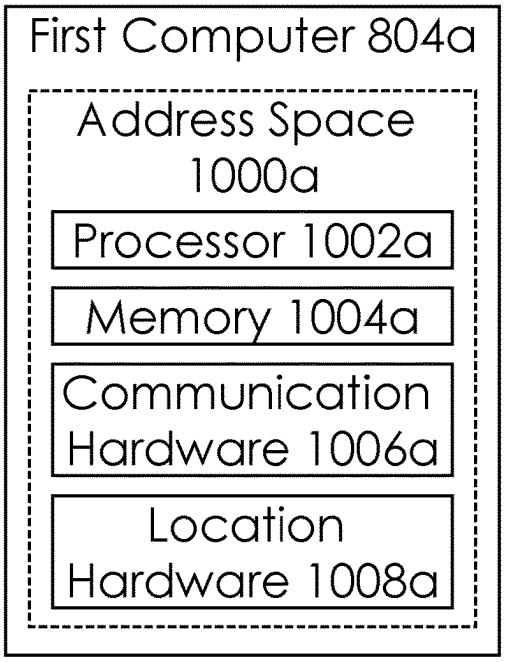

FIG. 10B

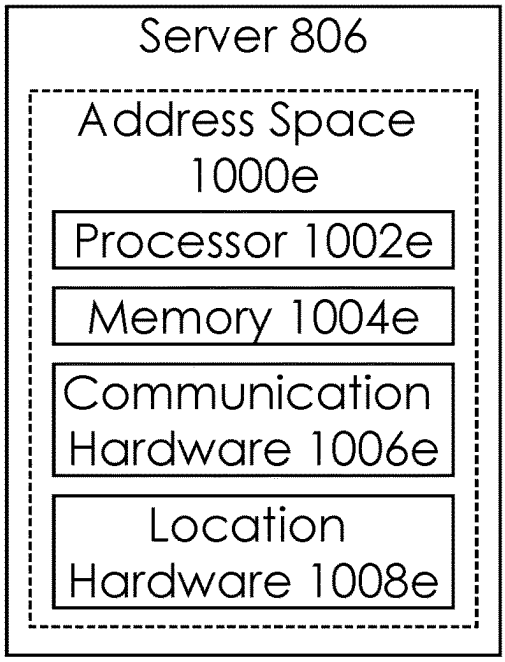

FIG. 10C

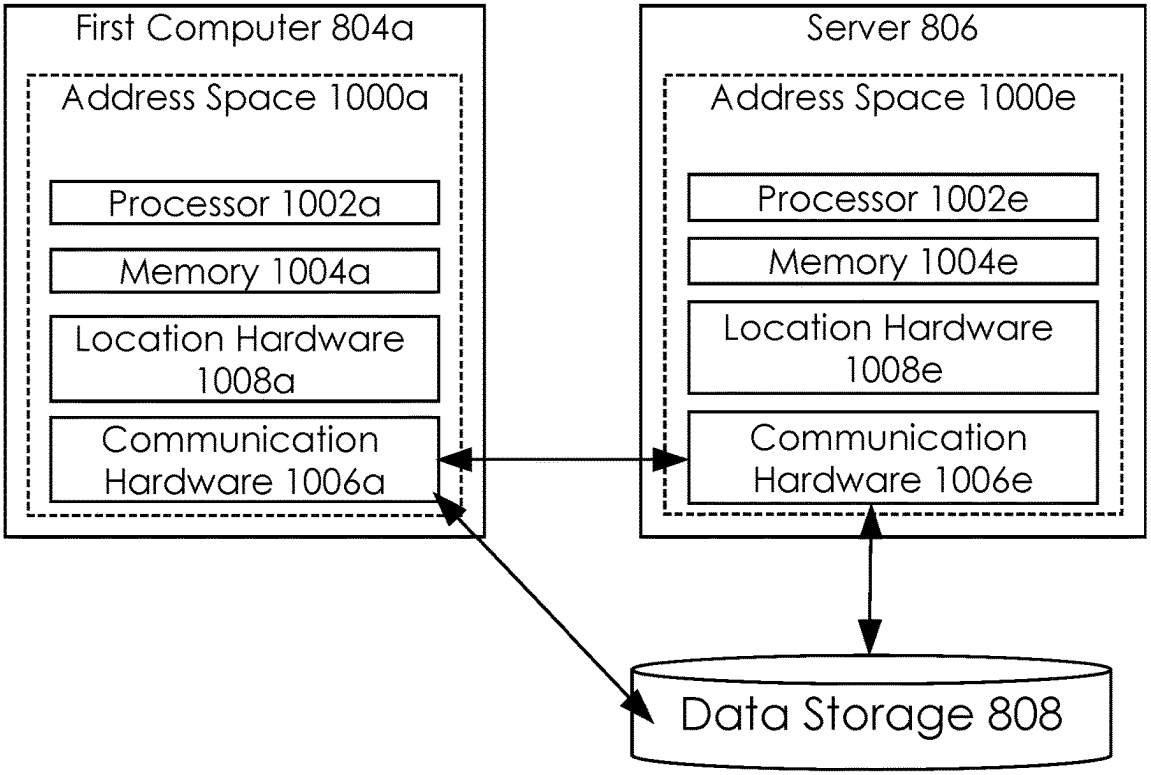

FIG. 11A

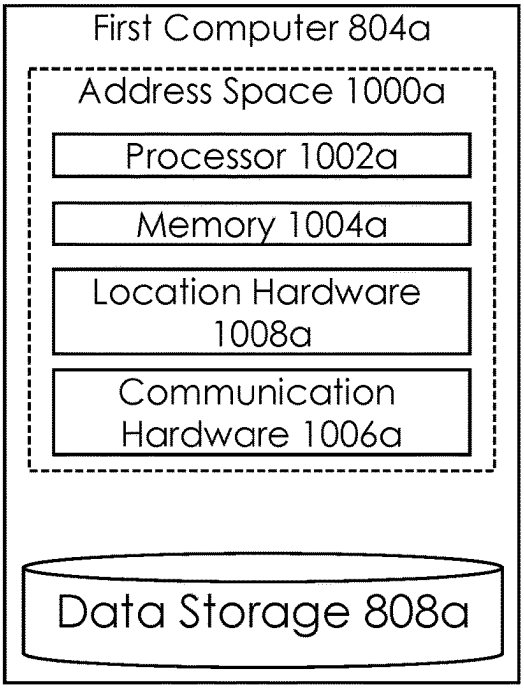

FIG. 11B

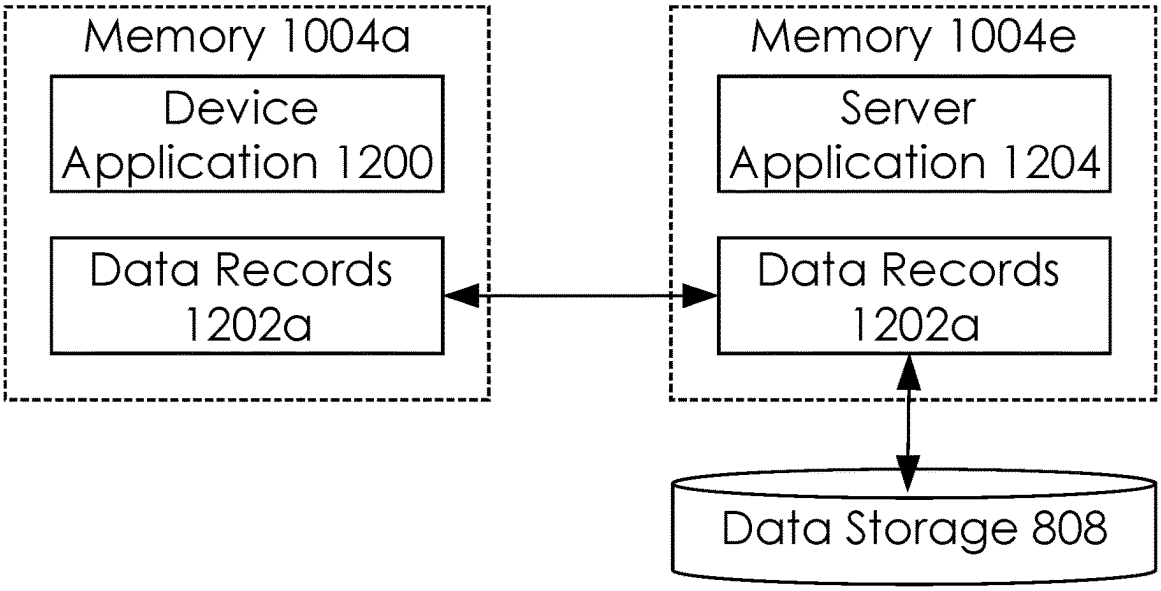

FIG. 12A

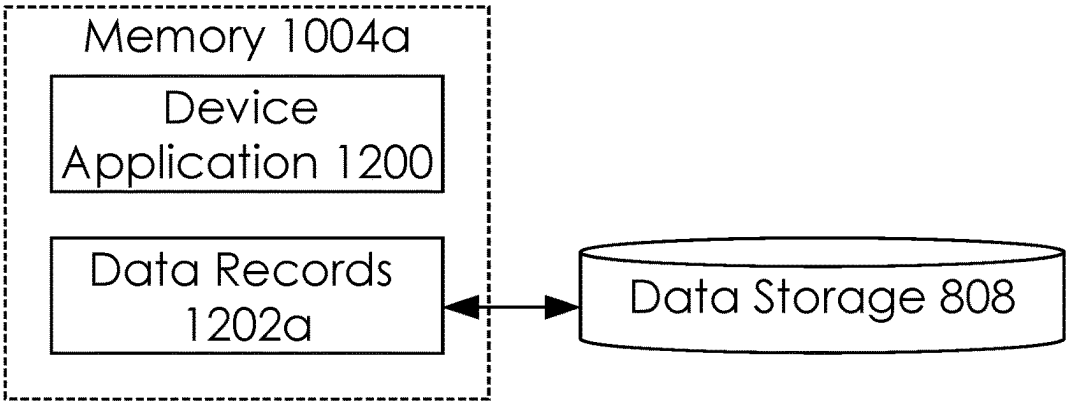

FIG. 12B

BANDSAW AUTOMATED PORTIONING SAW SYSTEM WITH VISUAL FEEDBACK AND METHOD OF USE

CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims U.S. Patent Application No. 62/798,181 filed 2019 Jan. 29, Ser. No. 16/751,100 filed 2020 Jan. 23, 62/796,027 filed 2019 Jan. 23, and Ser. No. 16/776,413 filed 2020 Jan. 29.

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT (IF APPLICABLE)

Not applicable.

REFERENCE TO SEQUENCE LISTING, A TABLE, OR A COMPUTER PROGRAM LISTING COMPACT DISC APPENDIX (IF APPLICABLE)

Not applicable.

BACKGROUND OF THE INVENTION

No prior art is known to the Applicant.

BRIEF SUMMARY OF THE INVENTION

An automated saw configured to analyze an uncut meat and calculate one or more cutting depths for one or more cut portions from said uncut meat based on a current cut of meat wherein: said automated saw comprises a controller and one or more visual sensors. Said controller comprises an address space, a processor and a memory. Said controller further comprises a device application stored in said memory and configured to be executed in said memory. Said uncut meat comprises a first end and a second end. Said device application is configured to analyze said uncut meat. Said first end of said uncut meat can be analyzed by said device application by: capturing a first slice image of said first end of said uncut meat using said one or more visual sensors, locating in said first slice image, one or more bone configurations and one or more meat portion configurations in relation to one another, and categorizing a current cut of meat categorization among one or more cuts of meat categorizations according to locations of said one or more bone configurations and said one or more meat portion configurations in said first slice image. Said one or more visual sensors comprises a first visual sensor and a second visual sensor. Said first visual sensor has an overview perspective of said uncut meat. Said device application is configured to calculate an uncut meat length of said uncut meat using images from said first visual sensor. Said second visual sensor comprises a view of said first end of said uncut meat length. Said automated saw captures an image of one or more slice images of said uncut meat length using said second visual sensor. Said device application is configured to calculate said one or more cutting depths for said one or more cuts of meat categorizations corresponding to a preference for each category of said one or more cuts of meat categorizations.

Said automated saw configured to analyze said uncut meat and calculate said one or more cutting depths for said one or more cut portions from said uncut meat based on a current cut of meat wherein: said automated saw comprises said controller and said one or more visual sensors. Said controller comprises said address space, said processor and said memory. Said controller further comprises said device application stored in said memory and configured to be executed in said memory. Said uncut meat comprises said first end and said second end. Said device application is configured to analyze said uncut meat. Said first end of said uncut meat can be analyzed by said device application by: capturing said first slice image of said first end of said uncut meat using said one or more visual sensors, locating in said first slice image, said one or more bone configurations and said one or more meat portion configurations in relation to one another, and categorizing a current cut of meat categorization among said one or more cuts of meat categorizations according to locations of said one or more bone configurations and said one or more meat portion configurations in said first slice image.

Said automated saw configured to analyze said uncut meat and calculate said one or more cutting depths for said one or more cut portions from said uncut meat based on a current cut of meat wherein: said automated saw comprises said controller and said one or more visual sensors. Said controller comprises said address space, said processor and said memory. Said controller further comprises said device application stored in said memory and configured to be executed in said memory. Said uncut meat comprises said first end and said second end. Said device application is configured to analyze said uncut meat. Said first end of said uncut meat can be analyzed by said device application by: capturing said first slice image of said first end of said uncut meat using said one or more visual sensors, locating in said first slice image, said one or more bone configurations and said one or more meat portion configurations in relation to one another, and categorizing a current cut of meat categorization among said one or more cuts of meat categorizations according to locations of said one or more bone configurations and said one or more meat portion configurations in said first slice image. Said automated saw using said device application is configured for analyzing said first end of said uncut meat by: capturing said first slice image of said first end, locating a first bone configuration and a configuration of said one or more meat portion configurations in relation to said first bone configuration, and measuring portions of said one or more meat portion configurations to categorize which among said one or more cuts of meat categorizations is presented at said first end of said uncut meat.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING

FIG. **1** illustrates a perspective overview of an automated saw **100**.

FIG. **2** illustrates a block diagram of portions of said automated saw **100**.

FIGS. **3**A and **3**B illustrate a back-side perspective overview of said automated saw **100** with a cutting plane **314** being calculated.

FIG. **4** illustrates a back-side perspective overview of said automated saw **100** with one or more cuts of meat **400** being shown.

FIGS. **5**A and **5**B illustrate a perspective overview of an uncut meat **202**, and a perspective overview of a first cut portion **318***a* and a second cut portion **318***b*, respectively.

FIGS. **6**A and **6**B illustrate an elevated front view of a first slice image **600***a* and a second slice image **600***b*, respectively.

FIG. **7** illustrates a method of use **700** for said automated saw **100**.

FIG. **8** illustrates a network diagram **800**.

FIGS. **9**A, **9**B, **9**C, **9**D and **9**E illustrate a mobile phone **900***a*, a personal computer **900***b*, a tablet **900***c*, a smart watch **900***d* and a smart phone **900***e*, respectively.

FIGS. **10**A, **10**B and **10**C illustrate an address space **1000**, an address space **1000***a* and an address space **1000***e*, respectively.

FIGS. **11**A and **11**B illustrate a flow chart between one or more computers **804** and a server **806**.

FIGS. **12**A and **12**B illustrate interactions between a device application **1200**, a server application **1204** and a data storage **808**.

DETAILED DESCRIPTION OF THE INVENTION

The following description is presented to enable any person skilled in the art to make and use the invention as claimed and is provided in the context of the particular examples discussed below, variations of which will be readily apparent to those skilled in the art. In the interest of clarity, not all features of an actual implementation are described in this specification. It will be appreciated that in the development of any such actual implementation (as in any development project), design decisions must be made to achieve the designers' specific goals (e.g., compliance with system- and business-related constraints), and that these goals will vary from one implementation to another. It will also be appreciated that such development effort might be complex and time-consuming, but would nevertheless be a routine undertaking for those of ordinary skill in the field of the appropriate art having the benefit of this disclosure. Accordingly, the claims appended hereto are not intended to be limited by the disclosed embodiments, but are to be accorded their widest scope consistent with the principles and features disclosed herein.

FIG. **1** illustrates a perspective overview of an automated saw **100**.

In one embodiment, said automated saw **100** can comprise a base **102**, a conveyor **104**, a post **106**, an overhang portion **108**, a controller **110**, one or more visual sensors **112**, a meat positioning assembly **114**, a pusher **116**, a tray **118** and a bandsaw blade **120**. Said base **102** can comprise a lower portion of said automated saw **100** which supports said tray **118** and said meat positioning assembly **114**. In one embodiment, said meat positioning assembly **114** can comprise a system which moves said tray **118** and said pusher **116** relative to other portions of said automated saw **100**. In one embodiment, said conveyor **104** can transport elements having been cut by said bandsaw blade **120**, as discussed below. In one embodiment, said tray **118** can move in two or three axes as dictated by said controller **110**.

In one embodiment, said one or more visual sensors **112** can comprise a camera, as is known in the art. Said one or more visual sensors **112** can comprise a first visual sensor **122** and a second visual sensor **124**. In one embodiment, said first visual sensor **122** can create an overview of said tray **118** and its contents, and said second visual sensor **124** can create a front-end view thereof.

In one embodiment, said controller **110** can comprise one among one or more computers **804**. In one embodiment, said controller **110** can receive signals from said one or more visual sensors **112**, said meat positioning assembly **114**, others among said one or more computers **804** and/or a server **806** to determine movement of said meat positioning assembly **114** and movement of said bandsaw blade **120**. As described below, said controller **110** being said one or more computers **804** therefore comprises an address space **1000**, a processor **1002**, a memory **1004** and a communication hardware **1006**.

FIG. **2** illustrates a block diagram of portions of said automated saw **100**.

One objective of said automated saw **100** can be to control movement of an uncut meat **202** within a first horizontal direction **204** and a second horizontal direction **206**; with the added control of movement of said uncut meat **202** relative to said tray **118** by pressing said uncut meat **202** with said pusher **116** in a pushing direction **212**. In one embodiment, said meat positioning assembly **114** can move said uncut meat **202** forward and backward relative to said bandsaw blade **120** according to said pushing direction **212**.

Said uncut meat **202** comprises a first end **214** and a second end **216**. In one embodiment, said first end **214** comprises a cutting end **218** of said uncut meat **202**.

FIGS. **3**A and **3**B illustrate a back-side perspective overview of said automated saw **100** with a cutting plane **314** being calculated.

In one embodiment, said automated saw **100**, with a device application **1200**, can calculate a diameter **306**, a surface area **302** and one or more cut portions **318** of said uncut meat **202**. As a starting point, said device application **1200** can know an uncut meat length **316**, said diameter **306** and an uncut meat weight **304** of said uncut meat **202** with a scale **300**. Said device application **1200** can be configured for: calculating said cutting plane **314** by using said surface area **302** and said one or more cut portions **318** along with said uncut meat weight **304**, said diameter **306** and said uncut meat length **316** to determine where to place said cutting plane **314** in order to cut said one or more cut portions **318**.

In one embodiment, said one or more cut portions **318** can comprise at least a first cut portion **318***a* and a second cut portion **318***b*. Further, said one or more cut portions **318** can comprise a cut portion weight **320**.

As illustrated, said automated saw **100** has already cut said first cut portion **318***a*, and has calculated said uncut meat length **316** from said uncut meat weight **304** and said uncut meat length **316** by dividing the desired quantity of said cut portion weight **320** for said second cut portion **318***b* by said uncut meat weight **304**, then taking that fraction and multiplying it by said uncut meat length **316**, the product of which comprises said one or more cut portions **318**.

In another embodiment, said one or more cut portions **318** can be calculated by accounting for said surface area **302** where said uncut meat **202** is not consistently the same diameter as said diameter **306**; wherein, said one or more cut portions **318** can be calculated by accounting for a volume and/or density of said uncut meat **202** along the entirety of said uncut meat length **316**.

FIG. **4** illustrates a back-side perspective overview of said automated saw **100** with one or more cuts of meat categorizations **400** being shown.

In one embodiment, said uncut meat **202** can comprise said one or more cuts of meat categorizations **400**. For example, in one embodiment, a beef loin can comprise a porterhouse cut, and a T-bone cut which need to be treated differently. One feature of said automated saw **100** is to analyze each of said one or more cut portions **318** before slicing them from said uncut meat **202**.

Said one or more cuts of meat categorizations **400** can comprise at least a first cut of meat **400***a* and a second cut of meat **400***b*.

FIGS. **5**A and **5**B illustrate a perspective overview of said uncut meat **202**, and a perspective overview of said first cut portion **318***a* and said second cut portion **318***b*, respectively.

Shown here are said uncut meat **202** as a short loin **502**, said first cut portion **318***a* as a T-bone cut **504**, and said second cut portion **318***b* as a porterhouse cut **506**. However, said automated saw **100** can be used to cut other types of meat without varying from the current disclosure.

One feature of said automated saw **100**, using said device application **1200**, is to visually analyze each among said one or more cut portions **318** and determine what cut of meat is presented for cutting. In one embodiment, said automated saw **100** can visually inspect one or more bone configurations **500** and determine which cut of meat is presented (such as said T-bone cut **504** or said porterhouse cut **506**). In one embodiment, said device application **1200** can be configured for: analyzing a current image among one or more slice images **600**, characterizing aspects of and end portion of said uncut meat **202** to classify what cut of meat is presented for cutting. Wherein, said automated saw **100** can cut one or more meat portion configurations **602** from said uncut meat **202** having classified what cuts of meat are being cut.

FIGS. **6**A and **6**B illustrate an elevated front view of a first slice image **600***a* and a second slice image **600***b*, respectively.

In one embodiment, said automated saw **100** can capture said one or more slice images **600** with said one or more visual sensors **112**. In one embodiment, said one or more slice images **600** can comprise visual images, as is known in the art. In one embodiment, said one or more slice images **600** can capture light and data not visible to the human eye, such as IR and heat signals.

FIG. **7** illustrates a method of use **700** for said automated saw **100**.

In one embodiment, said automated saw **100** using said device application **1200** can be configured for analyzing said first end **214** of said uncut meat **202** by: capturing said first slice image **600***a* of said first end **214**, locating a first bone configuration **500***a* and a configuration of said one or more meat portion configurations **602** in relation to said first bone configuration **500***a*, and measuring portions of said one or more meat portion configurations **602** to categorize which among said one or more cuts of meat categorizations **400** is presented at said first end **214** of said uncut meat **202**. Further, said automated saw **100** can calculate a first cutting depth **322***a* for a first meat portion **602***a*. In one embodiment, said automated saw **100**, using said device application **1200**, can be configured to receive preference inputs s for various said one or more cuts of meat categorizations **400** and corresponding one or more cutting depths **322**; wherein, for example, said first cutting depth **322***a* can correspond to said first cut of meat **400***a* and a second cutting depth **322***b* to said second cut of meat **400***b*. A butcher might, for example, prefer different thicknesses for said T-bone cut **504** and said porterhouse cut **506**.

In one embodiment, said one or more slice images **600** can comprise at least said first slice image **600***a* and said second slice image **600***b*.

FIG. **8** illustrates a network diagram **800**.

In one embodiment, said network diagram **800** can comprise said one or more computers **804**, one or more locations **802**, and a network **810**. In one embodiment, said one or more locations **802** can comprise a first location **802***a*, a second location **802***b* and a third location **802***c*. Said one or more computers **804** can comprise a first computer **804***a*, and a second computer **804***b* In one embodiment, said server **806** can communicate with said one or more computers **804** over said network **810**. Said one or more computers **804** can be attached to a printer **812** or other accessories, as is known in the art.

In one embodiment, said server **806** can attach to a data storage **808**.

In one embodiment, said printer **812** can be hardwired to said first computer **804***a* (not illustrated here), or said printer **812** can connect to one of said one or more computers **804** (such as said second computer **804***b*, as illustrated) via said network **810**.

Said network **810** can be a local area network (LAN), a wide area network (WAN), a piconet, or a combination of LANs, WANs, or piconets. One illustrative LAN is a network within a single business. One illustrative WAN is the Internet.

In one embodiment, said server **806** represents at least one, but can be many servers, each connected to said network **810**. Said server **806** can connect to said data storage **808**. Said data storage **808** can connect directly to said server **806**, as shown in FIG. **1**, or may exist remotely on said network **810**. In one embodiment, said data storage **808** can comprise any suitable long-term or persistent storage device and, further, may be separate devices or the same device and may be collocated or distributed (interconnected via any suitable communications network).

FIGS. **9**A, **9**B, **9**C, **9**D and **9**E illustrate a mobile phone **900***a*, a personal computer **900***b*, a tablet **900***c*, a smart watch **900***d* and a smart phone **900***e*, respectively.

In one embodiment, said one or more computers **804** can comprise said mobile phone **900***a*, said personal computer **900***b*, said tablet **900***c*, said smart watch **900***d* or said smart phone **900***e*. In one embodiment, each among said one or more computers **804** can comprise one or more input devices **904**, a keyboard **904***a*, a trackball **904***b*, one or more cameras **904***c*, a track pad **904***d*, a data **906** and/or a home button **908**, as is known in the art.

In the last several years, the useful definition of a computer has become more broadly understood to include mobile phones, tablet computers, laptops, desktops, and similar. For example, Microsoft®, have attempted to merge devices such as a tablet computer and a laptop computer with the release of "Windows® 8". In one embodiment, said one or more computers each can include, but is not limited to, a laptop (such as said personal computer **900***b*), desktop, workstation, server, mainframe, terminal, a tablet (such as said tablet **900***c*), a phone (such as said mobile phone **900***a*), and/or similar. Despite different form-factors, said one or more computers can have similar basic hardware, such as a screen **902** and said one or more input devices **904** (such as said keyboard **904***a*, said trackball **904***b*, said one or more cameras **904***c*, a wireless—such as RFID—reader, said track pad **904***d*, and/or said home button **908**). In one embodiment, said screen **902** can comprise a touch screen. In one embodiment, said track pad **904***d* can function similarly to a computer mouse as is known in the art. In one embodiment, said tablet **900***c* and/or said personal computer **900***b* can comprise a Microsoft® Windows® branded device, an Apple® branded device, or similar. In one embodiment, said tablet **900***c* can be an X86 type processor or an ARM type processor, as is known in the art.

Said network diagram **100** can comprise said data **906**. In one embodiment, said data **906** can comprise data related to financial transactions.

In one embodiment, said one or more computers can be used to input and view said data **906**. In one embodiment, said data **906** can be input into said one or more computers by taking pictures with one of said one or more camera **204***c*,

by typing in information with said keyboard **904***a*, or by using gestures on said screen **902** (where said screen **902** is a touch screen). Many other data entries means for devices like said one or more computers are well known and herein also possible with said data **906**. In one embodiment, said first computer **102***a* can comprise an iPhone®, a BlackBerry®, a smartphone, or similar. In one embodiment, said one or more computers **804** can comprise a laptop computer, a desktop computer, or similar.

FIGS. **10**A, **10**B and **10**C illustrate said address space **1000**, an address space **1000***a* and an address space **1000***e*, respectively.

In one embodiment, said one or more computers **804** can comprise said address space **1000**, and more specifically, said first computer **804***a* can comprise said address space **1000***a*, and so on. In turn, each among said address space **1000** can comprise said processor **1002**, said memory **1004**, said communication hardware **1006** and a location hardware **1008**. Thus, said address space **1000***a* a processor **1002***a*, a memory **1004***a*, a communication hardware **1006***a* and a location hardware **1008***a*; and said address space **1000***e* can comprise a processor **1002***e*, a memory **1004***e*, a communication hardware **1006***e* and a location hardware **1008***e*.

Each among said one or more computers **804** and said server **806** can comprise an embodiment of said address space **1000**. In one embodiment, said processor **1002** can comprise a plurality of processors, said memory **1004** can comprise a plurality of memory modules, and said communication hardware **1006** can comprise a plurality of communication hardware components. In one embodiment, said data **906** can be sent to said processor **1002**; wherein, said processor **1002** can perform processes on said data **906** according to an application stored in said memory **1004**, as discussed further below. Said processes can include storing said data **906** into said memory **1004**, verifying said data **906** conforms to one or more preset standards, or ensuring a required set among said required said data **906** has been gathered for said data management system and method. In one embodiment, said data **906** can include data which said one or more computers **804** can populate automatically, such as a date and a time, as well as data entered manually. Once a portion of gathering data has been performed said data **906** can be sent to said communication hardware **1006** for communication over said network **810**. Said network **810** can include a network transport processor for packetizing data, communication ports for wired communication, or an antenna for wireless communication. In one embodiment, said data **906** can be collected in one or more computers and delivered to said server **806** through said network **810**.

With reference to said controller **110**, which is at least a computer under the foregoing definition, said controller **110** can comprise said address space **1000** having said processor **1002**, said memory **1004**, said communication hardware **1006**, and said location hardware **1008**.

FIGS. **11**A and **11**B illustrate a flow chart between said one or more computers **804** and said server **806**.

In the first embodiment, said communication hardware **1006***a* and said communication hardware **1006***e* can send and receive said data **906** to and from one another and or can communicate with said data storage **808** across said network **810**. Likewise, in the second embodiment, said data storage **808** can be embedded inside of said one or more computers **804**, which may speed up data communications over said network **810**.

As illustrated in FIG. **4**A, in one embodiment, said server **806** can comprise a third-party data storage and hosting provider or privately managed as well.

As illustrated in FIG. **4**B, a data storage **808***a* can be located on said first computer **804***a*. Thus, said first computer **804***a* can operate without a data connection out to said server **806**.

FIGS. **12**A and **12**B illustrate interactions between said device application **1200**, a server application **1204** and said data storage **808**.

For nomenclature, each among data records can comprise a set of data records in use on said one or more computers **804**; thus, said first computer **804***a* can comprise a data records **1202***a*, and so on.

The following sentences comprise a summary of the original claims.

Said automated saw **100** configured to analyze said uncut meat **202** and calculate said one or more cutting depths **322** for said one or more cut portions **318** from said uncut meat **202** based on a current cut of meat wherein: said automated saw **100** comprises said controller **110** and said one or more visual sensors **112**. Said controller **110** comprises said address space **1000**, said processor **1002** and said memory **1004**. Said controller **110** further comprises said device application **1200** stored in said memory **1004** and configured to be executed in said memory **1004**. Said uncut meat **202** comprises said first end **214** and said second end **216**. Said device application **1200** can be configured to analyze said uncut meat **202**. Said first end **214** of said uncut meat **202** can be analyzed by said device application **1200** by: capturing said first slice image **600***a* of said first end **214** of said uncut meat **202** using said one or more visual sensors **112**, locating in said first slice image **600***a*, said one or more bone configurations **500** and said one or more meat portion configurations **602** in relation to one another, and categorizing a current cut of meat categorization among said one or more cuts of meat categorizations **400** according to locations of said one or more bone configurations **500** and said one or more meat portion configurations **602** in said first slice image **600***a*.

Said one or more visual sensors **112** comprises said first visual sensor **122** and said second visual sensor **124**. Said first visual sensor **122** has an overview perspective of said uncut meat **202**. Said device application **1200** can be configured to calculate said uncut meat length **316** of said uncut meat **202** using images from said first visual sensor **122**. Said second visual sensor **124** comprises a view of said first end **214** of said uncut meat length **316**. Said automated saw **100** captures an image of said one or more slice images **600** of said uncut meat length **316** using said second visual sensor **124**. Said device application **1200** can be configured to calculate said one or more cutting depths **322** for said one or more cuts of meat categorizations **400** corresponding to a preference for each category of said one or more cuts of meat categorizations **400**.

Said automated saw **100** further comprises said conveyor **104**, said meat positioning assembly **114**, and said bandsaw blade **120**. Said meat positioning assembly **114** comprises said pusher **116**, and said tray **118**. Said tray **118** can be configured to move toward and away from said pushing direction **212** relative to said bandsaw blade **120**. Said pusher **116** can be configured to push portions of said uncut meat **202** toward and past said bandsaw blade **120**.

Said device application **1200** can be configured to select a current cutting depth for a current cut of meat categorization, and move **118**/to as to position said uncut meat **202** for cutting by said bandsaw blade **120**.

Said device application **1200** can be configured for: analyzing a current image among said one or more slice images **600**, characterizing aspects of and end portion of said

uncut meat **202** to classify what cut of meat can be presented for cutting. Said automated saw **100** can be configured to cut said one or more meat portion configurations **602** from said uncut meat **202** having classified what cuts of meat can be being cut.

Said automated saw **100** using said device application **1200** can be configured for analyzing said first end **214** of said uncut meat **202** by: capturing said first slice image **600***a* of said first end **214**, locating said first bone configuration **500***a* and a configuration of said one or more meat portion configurations **602** in relation to said first bone configuration **500***a*, and measuring portions of said one or more meat portion configurations **602** to categorize which among said one or more cuts of meat categorizations **400** can be presented at said first end **214** of said uncut meat **202**.

LISTING OF THE PARTS

said automated saw **100**,
Said base **102**,
Said conveyor **104**,
Said post **106**,
Said overhang portion **108**,
Said controller **110**,
Said one or more visual sensors **112**,
Said meat positioning assembly **114**,
Said pusher **116**,
Said tray **118**,
Said bandsaw blade **120**,
Said first visual sensor **122**,
Said second visual sensor **124**,
Said one or more computers **804**,
Said server **806**,
Said address space **1000**,
Said processor **1002**,
Said memory **1004**,
Said communication hardware **1006**,
Said uncut meat **202**,
Said first horizontal direction **204**,
Said second horizontal direction **206**,
Said pushing direction **212**,
Said first end **214**,
Said second end **216**,
Said cutting end **218**,
Said cutting plane **314**,
Said device application **1200**,
Said diameter **306**,
Said surface area **302**,
Said one or more cut portions **318**,
Said uncut meat length **316**,
Said uncut meat weight **304**,
Said scale **300**,
Said first cut portion **318***a*,
Said second cut portion **318***b*,
Said cut portion weight **320**,
Said one or more cuts of meat categorizations **400**,
Said first cut of meat **400***a*,
Said second cut of meat **400***b*,
Said short loin **502**,
Said T-bone cut **504**,
Said porterhouse cut **506**,
Said one or more bone configurations **500**,
Said one or more slice images **600**,
Said one or more meat portion configurations **602**,
Said first slice image **600***a*,
Said second slice image **600***b*,
Said method of use **700**,
Said first bone configuration **500***a*,
Said first cutting depth **322***a*,
Said first meat portion **602***a*,
Said one or more cutting depths **322**,
Said second cutting depth **322***b*,
Said network diagram **800**,
Said one or more locations **802**,
Said network **810**,
Said first location **802***a*,
Said second location **802***b*,
Said third location **802***c*,
Said first computer **804***a*,
Said second computer **804***b*,
Said printer **812**,
Said data storage **808**,
Said mobile phone **900***a*,
Said personal computer **900***b*,
Said tablet **900***c*,
Said smart watch **900***d*,
Said smart phone **900***e*,
Said one or more input devices **904**,
Said keyboard **904***a*,
Said trackball **904***b*,
Said one or more cameras **904***c*,
Said track pad **904***d*,
Said data **906**,
Said home button **908**,
Said screen **902**,
Said address space **1000***a*,
Said address space **1000***e*,
Said location hardware **1008**,
Said processor **1002***a*,
Said memory **1004***a*,
Said communication hardware **1006***a*,
Said location hardware **1008***a*,
Said processor **1002***e*,
Said memory **1004***e*,
Said communication hardware **1006***e*,
Said location hardware **1008***e*,
Said data storage **808***a*,
Said server application **1204**, and
said data records **1202***a*.

Various changes in the details of the illustrated operational methods are possible without departing from the scope of the following claims. Some embodiments may combine the activities described herein as being separate steps. Similarly, one or more of the described steps may be omitted, depending upon the specific operational environment the method is being implemented in. It is to be understood that the above description is intended to be illustrative, and not restrictive. For example, the above-described embodiments may be used in combination with each other. Many other embodiments will be apparent to those of skill in the art upon reviewing the above description. The scope of the invention should, therefore, be determined with reference to the appended claims, along with the full scope of equivalents to which such claims are entitled. In the appended claims, the terms "including" and "in which" are used as the plain-English equivalents of the respective terms "comprising" and "wherein."

The invention claimed is:

1. An automated saw configured to analyze an uncut meat and calculate one or more cutting depths for one or more cut portions from said uncut meat based on a current cut of meat; wherein:

said automated saw comprises a controller and one or more visual sensors;

said controller comprises an address space, a processor and a memory;

said controller further comprises a device application stored in said memory and configured to be executed in said memory;

said uncut meat comprises a first end and a second end;

said device application is configured to analyze said uncut meat;

said first end of said uncut meat can be analyzed by said device application by:

capturing a first slice image of said first end of said uncut meat using said one or more visual sensors,

locating in said first slice image, one or more bone configurations and one or more meat portion configurations in relation to one another, and

categorizing a current cut of meat categorization among one or more cuts of meat categorizations according to locations of said one or more bone configurations and said one or more meat portion configurations in said first slice image;

said one or more visual sensors comprises a first visual sensor and a second visual sensor;

said first visual sensor has an overview perspective of said uncut meat;

said device application is configured to calculate an uncut meat length of said uncut meat using images from said first visual sensor;

said second visual sensor comprises a view of said first end of said uncut meat length;

said automated saw captures an image of one or more slice images of said uncut meat length using said second visual sensor; and

said device application is configured to calculate said one or more cutting depths for said one or more cuts of meat categorizations corresponding to a preference for each category of said one or more cuts of meat categorizations.

2. The automated saw of claim **1**, wherein:

said automated saw further comprises a conveyor, a meat positioning assembly, and a bandsaw blade;

said meat positioning assembly comprises a pusher, and a tray;

said tray is configured to move toward and away from a pushing direction relative to said bandsaw blade; and

said pusher is configured to push portions of said uncut meat toward and past said bandsaw blade.

3. The automated saw of claim **2**, wherein:

said device application is configured to select a current cutting depth for a current cut of meat categorization, and move **118**/to as to position said uncut meat for cutting by said bandsaw blade.

4. An automated saw configured to analyze an uncut meat and calculate one or more cutting depths for one or more cut portions from said uncut meat based on a current cut of meat; wherein:

said automated saw comprises a controller and one or more visual sensors;

said controller comprises an address space, a processor and a memory;

said controller further comprises a device application stored in said memory and configured to be executed in said memory;

said uncut meat comprises a first end and a second end;

said device application is configured to analyze said uncut meat;

said first end of said uncut meat can be analyzed by said device application by:

capturing a first slice image of said first end of said uncut meat using said one or more visual sensors,

locating in said first slice image, one or more bone configurations and one or more meat portion configurations in relation to one another, and

categorizing a current cut of meat categorization among one or more cuts of meat categorizations according to locations of said one or more bone configurations and said one or more meat portion configurations in said first slice image.

5. The automated saw of claim **4**, wherein:

said one or more visual sensors comprises a first visual sensor and a second visual sensor;

said first visual sensor has an overview perspective of said uncut meat;

said device application is configured to calculate an uncut meat length of said uncut meat using images from said first visual sensor;

said second visual sensor comprises a view of said first end of said uncut meat length;

said automated saw captures an image of one or more slice images of said uncut meat length using said second visual sensor; and

said device application is configured to calculate said one or more cutting depths for said one or more cuts of meat categorizations corresponding to a preference for each category of said one or more cuts of meat categorizations.

6. The automated saw of claim **5**, wherein:

said automated saw further comprises a conveyor, a meat positioning assembly, and a bandsaw blade;

said meat positioning assembly comprises a pusher, and a tray;

said tray is configured to move toward and away from a pushing direction relative to said bandsaw blade; and

said pusher is configured to push portions of said uncut meat toward and past said bandsaw blade.

7. The automated saw of claim **6**, wherein:

said device application is configured to select a current cutting depth for a current cut of meat categorization, and move **118**/to as to position said uncut meat for cutting by said bandsaw blade.

8. The automated saw of claim **4**, wherein:

said device application is configured for:

analyzing a current image among said one or more slice images, characterizing aspects of and end portion of said uncut meat to classify what cut of meat is presented for cutting; and

said automated saw is configured to cut said one or more meat portion configurations from said uncut meat having classified what cuts of meat are being cut.

9. The automated saw of claim **4**, wherein:

said automated saw using said device application is configured for analyzing said first end of said uncut meat by:

capturing said first slice image of said first end,

locating a first bone configuration and a configuration of said one or more meat portion configurations in relation to said first bone configuration, and

measuring portions of said one or more meat portion configurations to categorize which among said one or more cuts of meat categorizations is presented at said first end of said uncut meat.

10. The automated saw of claim **9**, wherein:

said one or more visual sensors comprises said first visual sensor and said second visual sensor;

said first visual sensor has an overview perspective of said uncut meat length;

said automated saw, using said device application, calculates said uncut meat length;

said second visual sensor comprises a view of said first end of said uncut meat length;

said automated saw captures an image of said one or more slice images of said uncut meat length using said second visual sensor;

said automated saw, using said device application, is configured to calculate a first cutting depth for a first meat portion;

said automated saw is configured to receive preference inputs related to said one or more cuts of meat categorizations and corresponding said one or more cutting depths; and

said first cutting depth can correspond to a first cut of meat and a second cutting depth to a second cut of meat.

11. An automated saw configured to analyze an uncut meat and calculate one or more cutting depths for one or more cut portions from said uncut meat based on a current cut of meat; wherein:

said automated saw comprises a controller and one or more visual sensors;

said controller comprises an address space, a processor and a memory;

said controller further comprises a device application stored in said memory and configured to be executed in said memory;

said uncut meat comprises a first end and a second end;

said device application is configured to analyze said uncut meat;

said first end of said uncut meat can be analyzed by said device application by:

capturing a first slice image of said first end of said uncut meat using said one or more visual sensors,

locating in said first slice image, one or more bone configurations and one or more meat portion configurations in relation to one another, and

categorizing a current cut of meat categorization among one or more cuts of meat categorizations according to locations of said one or more bone configurations and said one or more meat portion configurations in said first slice image; and

said automated saw using said device application is configured for analyzing said first end of said uncut meat by:

capturing said first slice image of said first end,

locating a first bone configuration and a configuration of said one or more meat portion configurations in relation to said first bone configuration, and

measuring portions of said one or more meat portion configurations to categorize which among said one or more cuts of meat categorizations is presented at said first end of said uncut meat.

12. The automated saw of claim **11**, wherein:

said one or more visual sensors comprises a first visual sensor and a second visual sensor;

said first visual sensor has an overview perspective of an uncut meat length;

said automated saw, using said device application, calculates said uncut meat length;

said second visual sensor comprises a view of said first end of said uncut meat length;

said automated saw captures an image of one or more slice images of said uncut meat length using said second visual sensor;

said automated saw, using said device application, is configured to calculate a first cutting depth for a first meat portion;

said automated saw is configured to receive preference inputs related to said one or more cuts of meat categorizations and corresponding said one or more cutting depths; and

said first cutting depth can correspond to a first cut of meat and a second cutting depth to a second cut of meat.

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