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Ford et al.

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(54) **SAW GIN STAND SAFETY ASSEMBLY**

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(22) Filed: **Oct. 30, 2023**

(65) **Prior Publication Data**

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Related U.S. Application Data

(63) Continuation-in-part of application No. 17/808,107, filed on Jun. 21, 2022, now abandoned.

(60) Provisional application No. 63/212,467, filed on Jun. 18, 2021.

(51) **Int. Cl.**
D01B 1/08 (2006.01)
D01G 23/04 (2006.01)

(52) **U.S. Cl.**
CPC ***D01B 1/08*** (2013.01); ***D01G 23/04*** (2013.01)

(58) **Field of Classification Search**
CPC ... D01B 1/04; D01B 1/06; D01B 1/08; D01G 23/04
See application file for complete search history.

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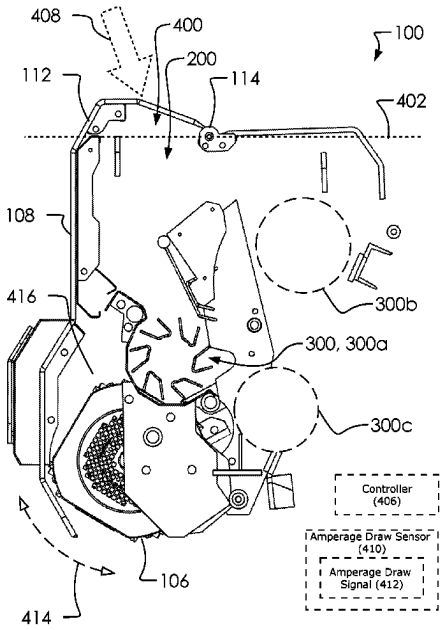
(57) **ABSTRACT**

A saw gin stand safety assembly for holding a fibrous material for ginning with a rotating ginning equipment. The saw gin stand safety assembly comprises an outer shell, a throat, a picker-agitator motor, an amperage draw sensor and the rotating ginning equipment. The rotating ginning equipment comprises at least a picker roller. The amperage draw sensor monitors a power usage of the picker-agitator motor. The saw gin stand safety assembly is configured to adjust an RPM of the picker-agitator motor according to an amperage draw signal generated by the amperage draw sensor. The throat is configured for holding the fibrous material comprising cotton during the ginning process. The saw gin stand safety assembly further comprises the amperage draw sensor. The saw gin stand safety assembly is configured to adjust the RPM of the picker-agitator motor to avoid choaking of the fibrous material in the rotating ginning equipment and the throat.

17 Claims, 8 Drawing Sheets



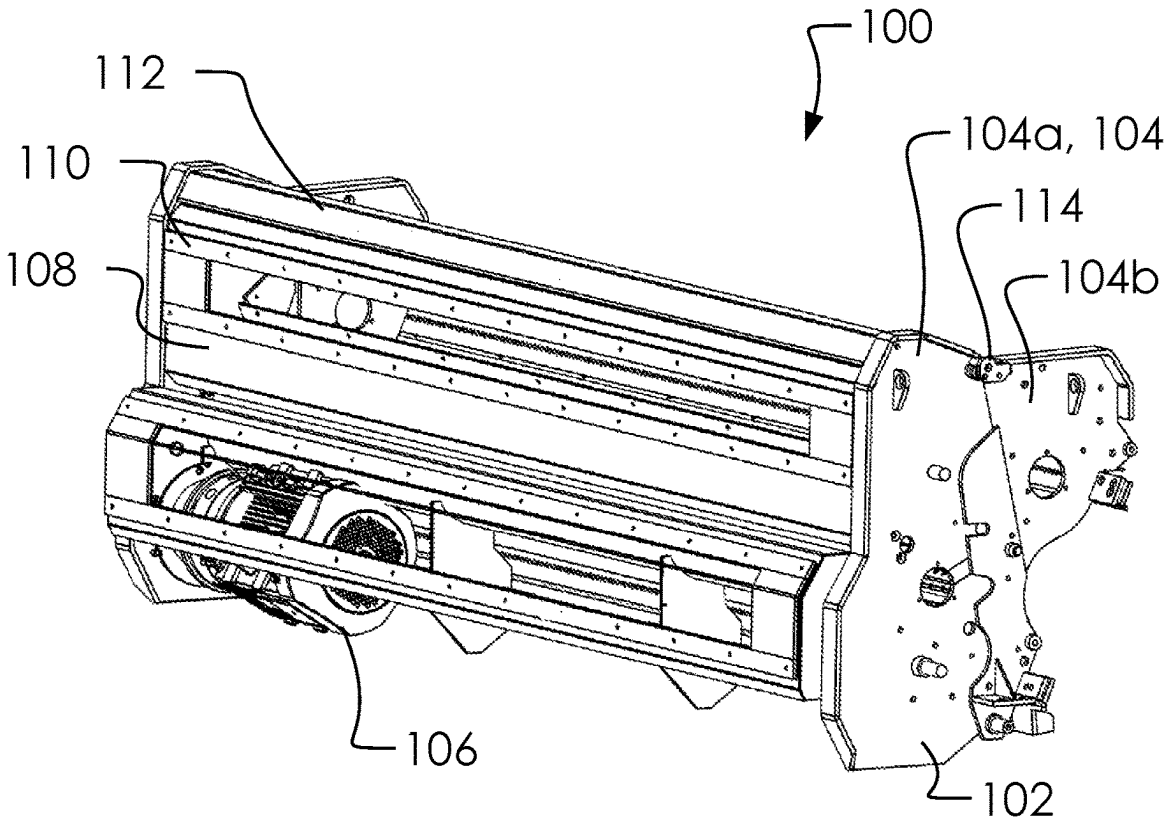


FIG. 1

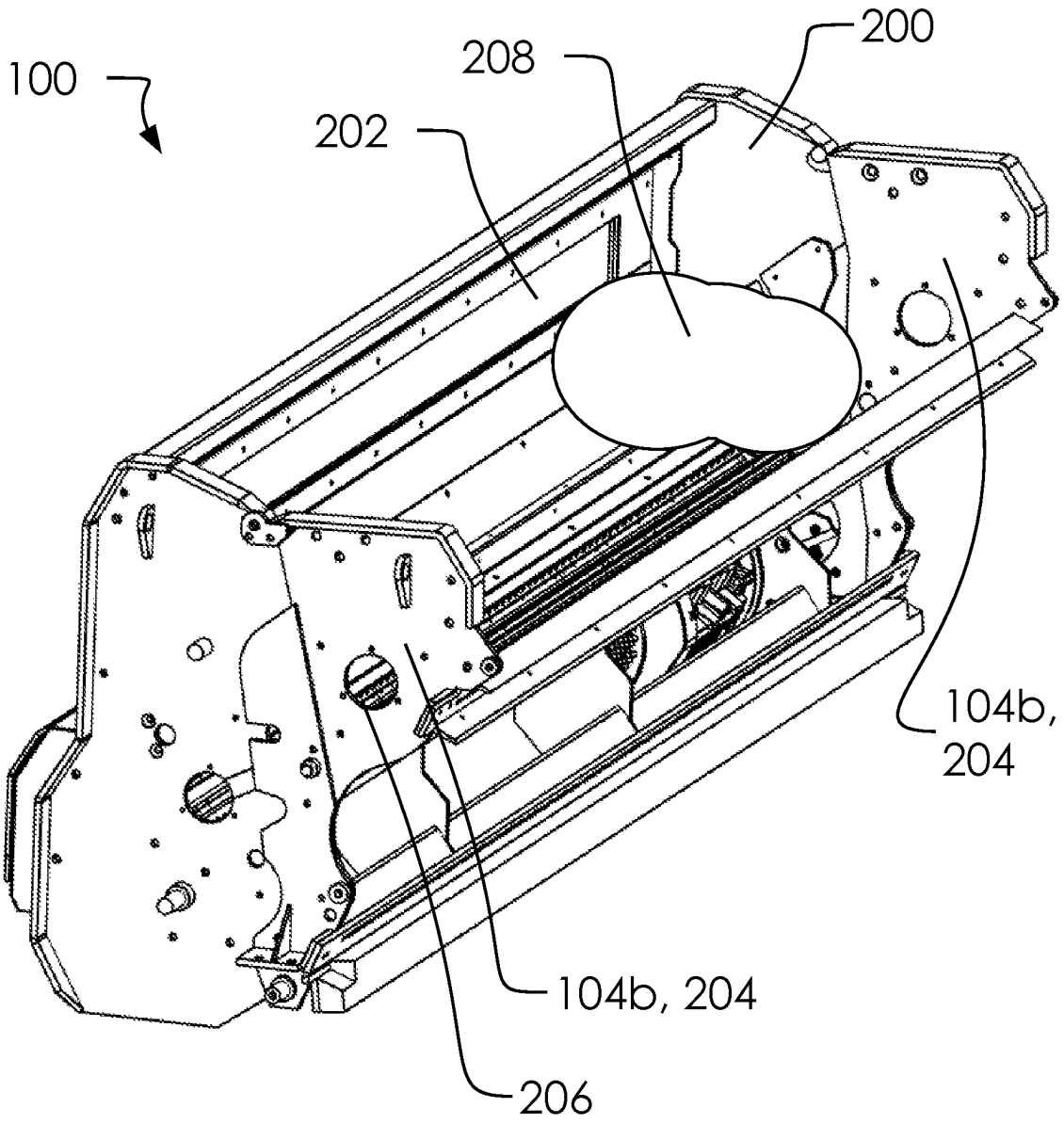


FIG. 2

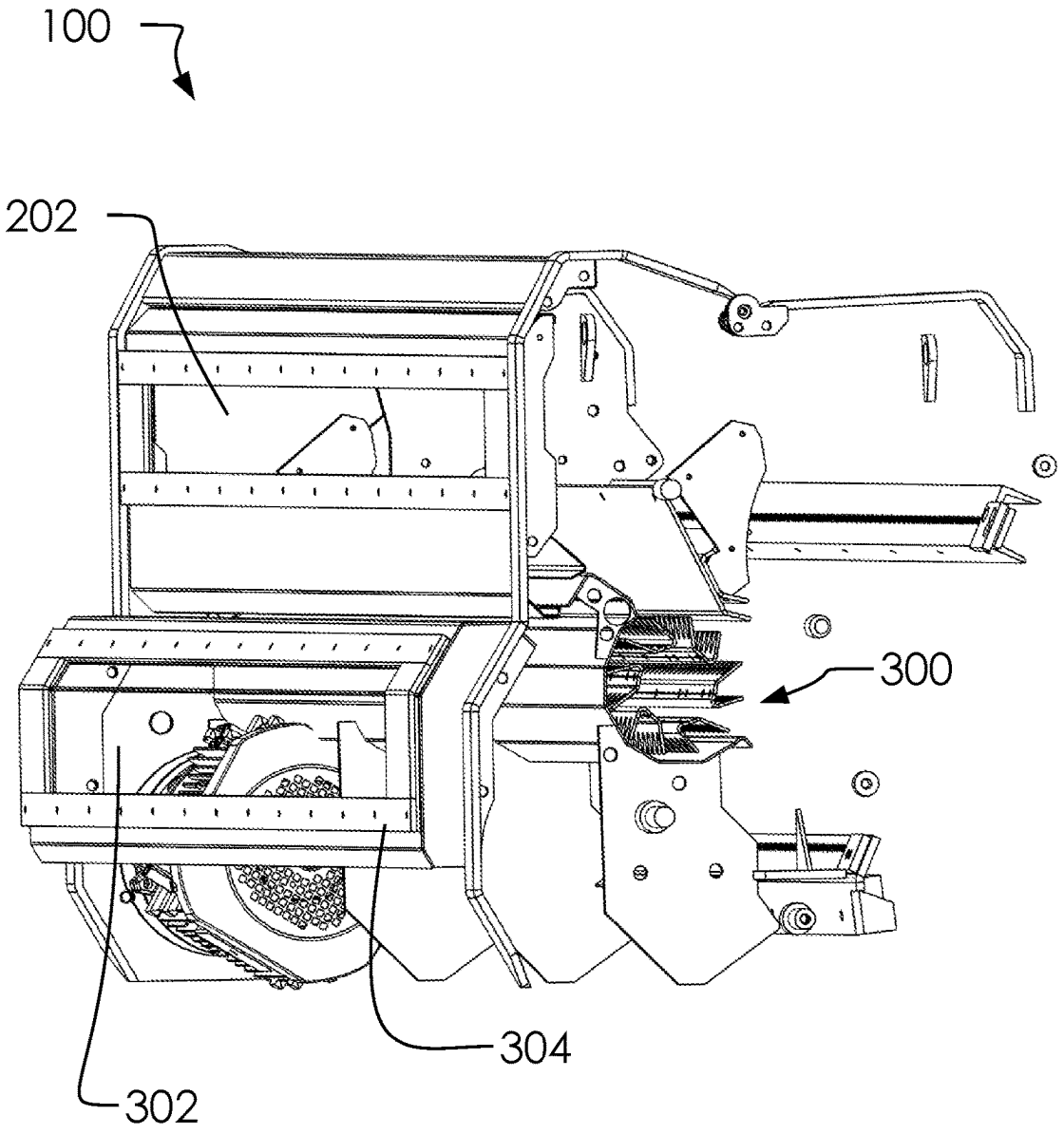


FIG. 3

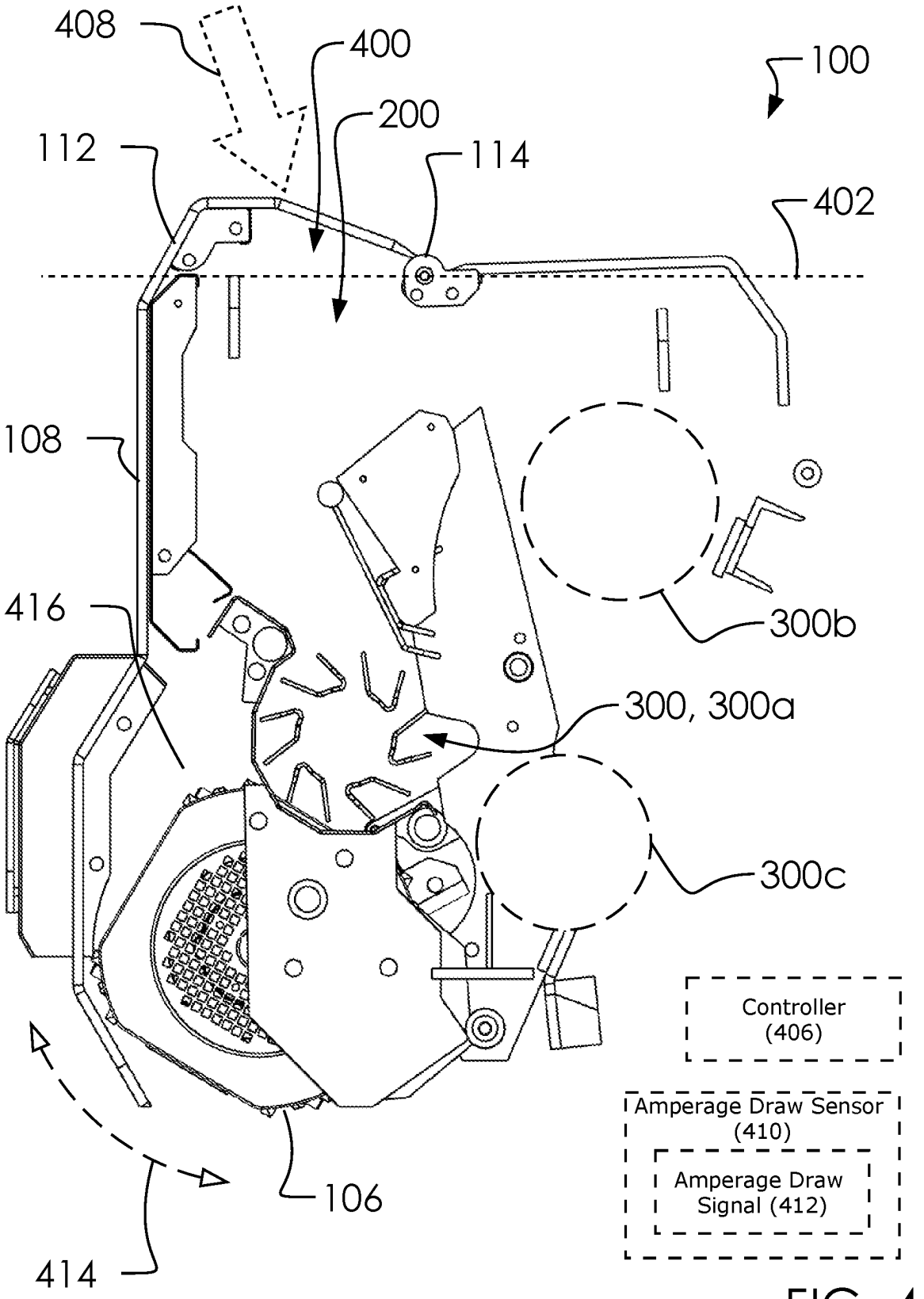

408
400
100
200
112
114
402
108
416
300b
300, 300a
300c
Controller (406)
Amperage Draw Sensor (410)
Amperage Draw Signal (412)
106
414

FIG. 4

Prior Art

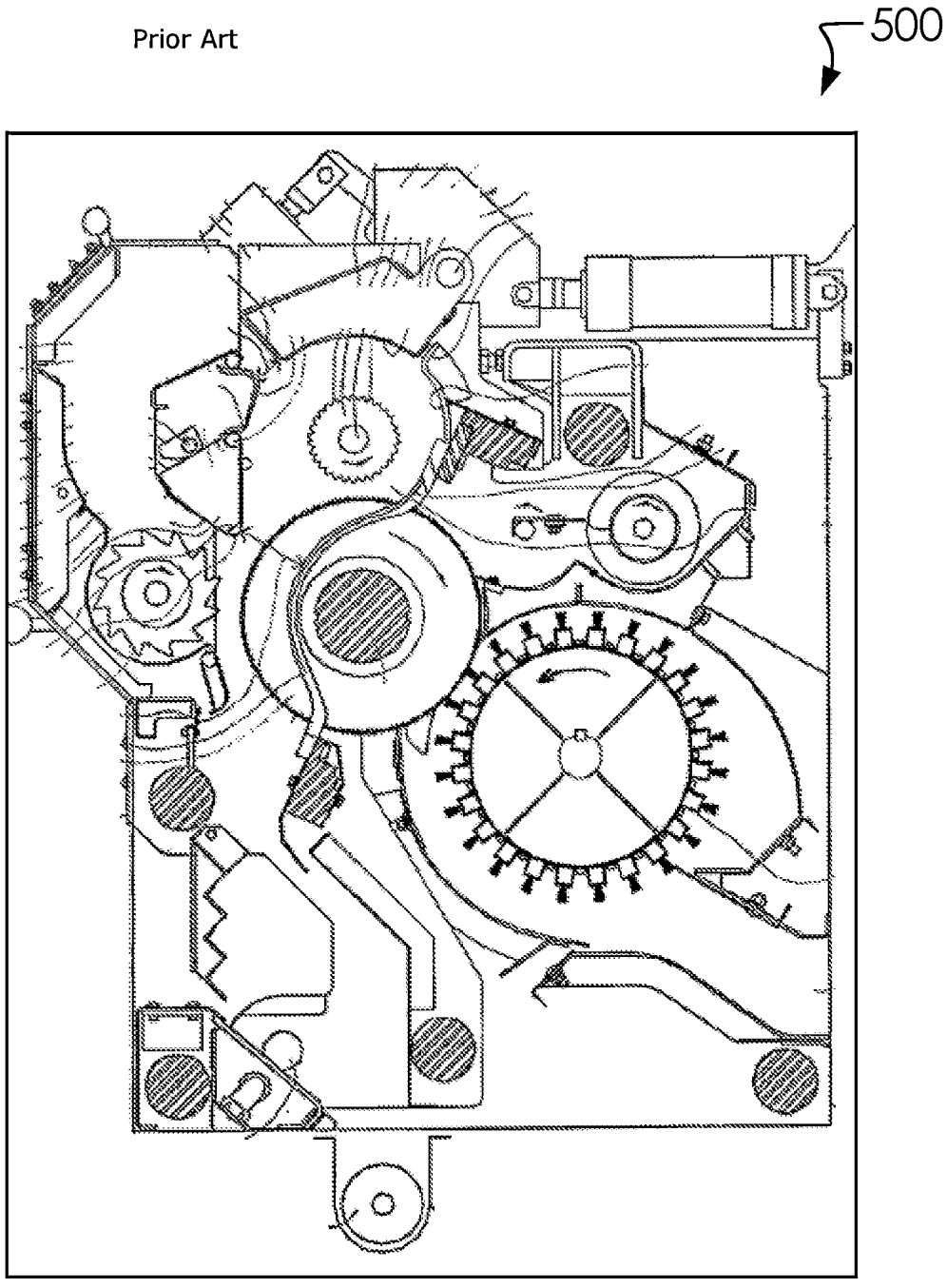


FIG. 5

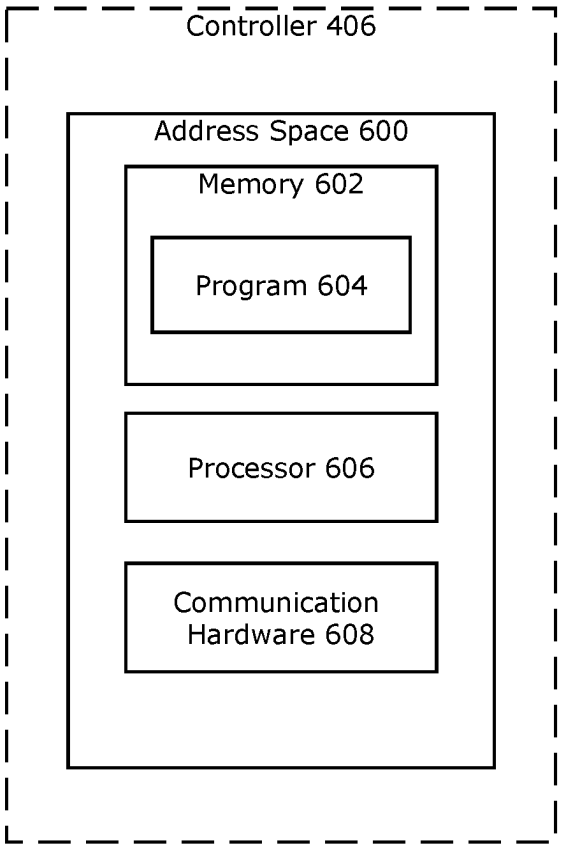

Controller 406
Address Space 600
Memory 602
Program 604
Processor 606
Communication Hardware 608

FIG. 6

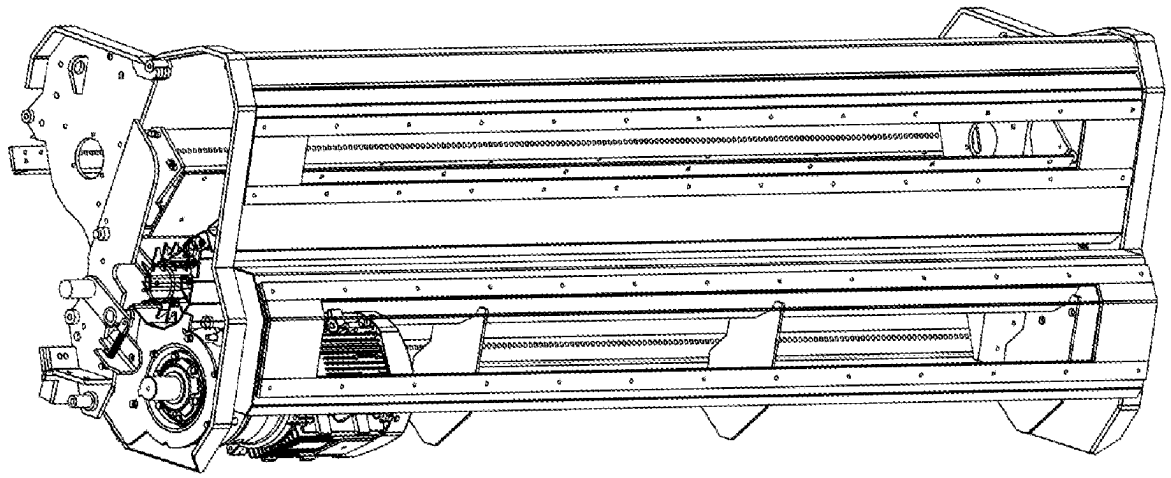


FIG. 7

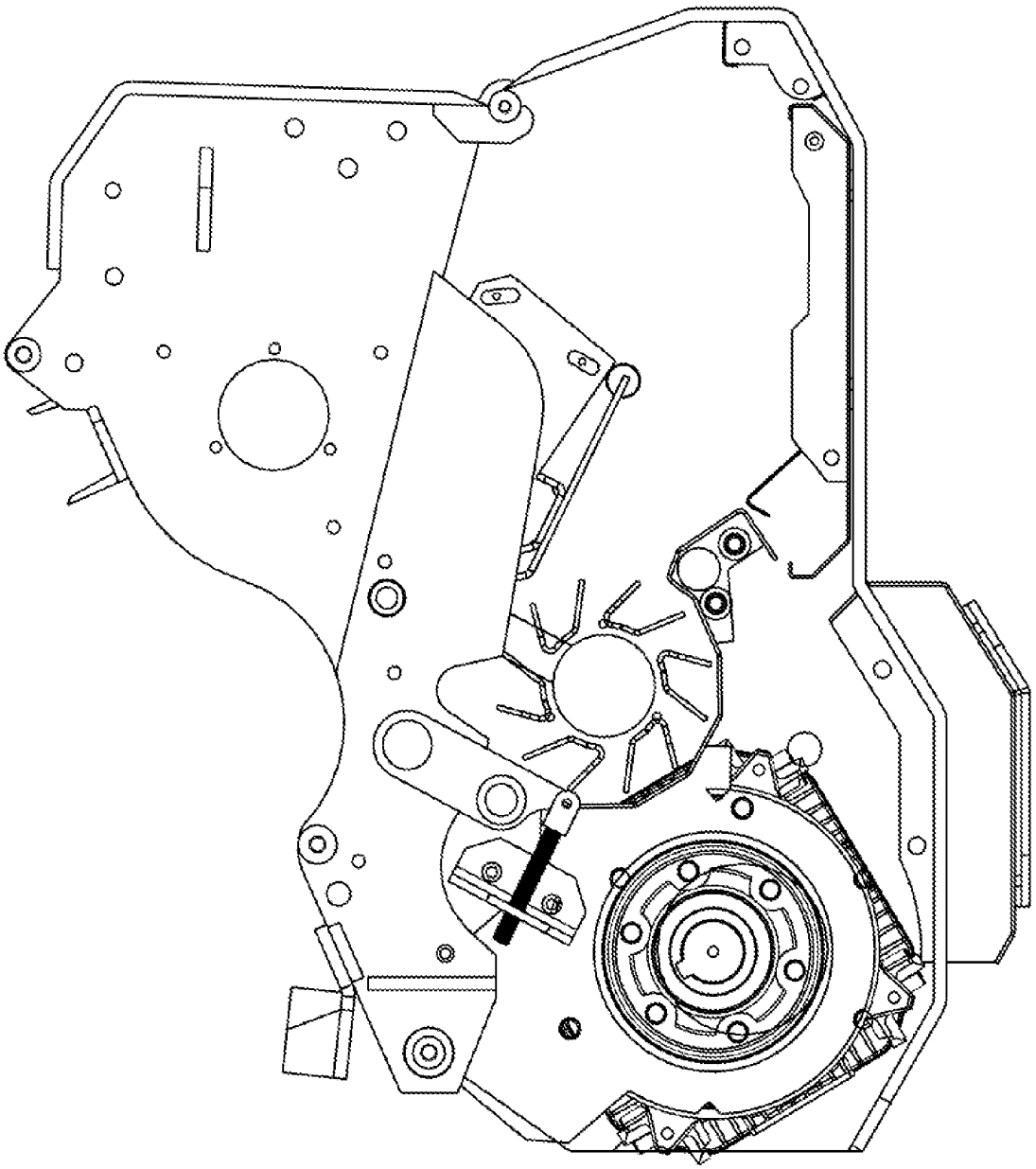


FIG. 8

SAW GIN STAND SAFETY ASSEMBLY

CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims benefit to, and incorporates by reference, U.S. provisional patent application 63/212,467 filed 2021 Jun. 18, and U.S. nonprovisional application Ser. No. 17/808,107 filed 2022 Jun. 21. Further, application '107 comprises the parent application to this continuation-in-part.

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 that should preempt the current claims is known to the Applicant. However, these references are cited in the parent application's Office Action and are also included in the IDS provided with this application: U.S. Pat. Nos. 7,810,217, 7,707,692, 7,325,277, 6,061,875, 6,263,545, 6,460,223, and 157,966.

BRIEF SUMMARY OF THE INVENTION

A saw gin stand safety assembly for holding a fibrous material for ginning with a rotating ginning equipment. Said saw gin stand safety assembly comprises an outer shell, a throat, a picker-agitator motor, an amperage draw sensor and said rotating ginning equipment. Said rotating ginning equipment comprises at least a picker roller. Said amperage draw sensor monitors a power usage of said picker-agitator motor. Said saw gin stand safety assembly is configured to adjust an RPM of said picker-agitator motor according to an amperage draw signal generated by said amperage draw sensor. Said throat is configured for holding said fibrous material comprising cotton during the ginning process. Said saw gin stand safety assembly is configured for receiving said fibrous material in a portion of said throat, channeling said fibrous material downward through said throat into said rotating ginning equipment, rotating said picker-agitator motor, monitoring said amperage draw signal from said amperage draw sensor, and adjusting said RPM of said picker-agitator motor according to said amperage draw signal. Said saw gin stand safety assembly further comprises said amperage draw sensor. Said saw gin stand safety assembly is configured to adjust said RPM of said picker-agitator motor to avoid choaking of said fibrous material in said rotating ginning equipment and said throat. Said saw gin stand safety assembly comprises said picker roller and an agitator attached to and driven by said picker-agitator motor. Said picker-agitator motor is configured to drive said picker roller and said agitator separate from other portions of said saw gin stand safety assembly. Wherein, monitoring a load and adjusting a speed of said picker-agitator motor, can vary a feed rate of said fibrous material being fed into said saw gin stand safety assembly, without slowing a saw blade and a blade cleaning brush assembly.

Said saw gin stand safety assembly for holding said fibrous material for ginning with said rotating ginning equipment. Said saw gin stand safety assembly comprises said outer shell, said throat, said picker-agitator motor, said amperage draw sensor and said rotating ginning equipment. Said rotating ginning equipment comprises at least said picker roller. Said amperage draw sensor monitors a power usage of said picker-agitator motor. Said saw gin stand safety assembly is configured to adjust said RPM of said picker-agitator motor according to said amperage draw signal generated by said amperage draw sensor. Said throat is configured for holding said fibrous material comprising cotton during the ginning process. Said saw gin stand safety assembly is configured for receiving said fibrous material in a portion of said throat, channeling said fibrous material downward through said throat into said rotating ginning equipment, rotating said picker-agitator motor, monitoring said amperage draw signal from said amperage draw sensor, and adjusting said RPM of said picker-agitator motor according to said amperage draw signal.

Said saw gin stand safety assembly for holding said fibrous material for ginning with said rotating ginning equipment. Said saw gin stand safety assembly comprises said outer shell, said throat, said picker-agitator motor, said amperage draw sensor and said rotating ginning equipment. Said rotating ginning equipment comprises at least said picker roller. Said amperage draw sensor monitors a power usage of said picker-agitator motor. Said saw gin stand safety assembly is configured to adjust said RPM of said picker-agitator motor according to said amperage draw signal generated by said amperage draw sensor. Said throat is configured for holding said fibrous material comprising cotton during the ginning process. Said saw gin stand safety assembly is configured for receiving said fibrous material in a portion of said throat, channeling said fibrous material downward through said throat into said rotating ginning equipment, rotating said picker-agitator motor, monitoring said amperage draw signal from said amperage draw sensor, and adjusting said RPM of said picker-agitator motor according to said amperage draw signal. Said saw gin stand safety assembly comprises said picker roller and said agitator attached to and driven by said picker-agitator motor. Said picker-agitator motor is configured to drive said picker roller and said agitator separate from other portions of said saw gin stand safety assembly. Wherein, monitoring a load and adjusting a speed of said picker-agitator motor, can vary a feed rate of said fibrous material being fed into said saw gin stand safety assembly, without slowing said saw blade and said blade cleaning brush assembly.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING

FIG. **1** illustrates a perspective overview of a saw gin stand safety assembly **100**.

FIG. **2** illustrates a perspective rear view of said saw gin stand safety assembly **100** with a hinged lid **112** removed.

FIG. **3** illustrates a perspective side view of said saw gin stand safety assembly **100** with a plurality of side panels **104** removed.

FIG. **4** illustrates an elevated side view of said saw gin stand safety assembly **100** with said plurality of side panels **104** removed.

FIG. **5** illustrates a prior art gin stand **500**.

FIG. **6** illustrates a block diagram of an address space **600** of a controller **406**.

FIG. **7** illustrates a perspective overview of said saw gin stand safety assembly **100**.

FIG. **8** illustrates elevated side view of said saw gin stand safety assembly **100**.

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 a saw gin stand safety assembly **100**.

In one embodiment, said saw gin stand safety assembly **100** can comprise an outer shell **102**, a plurality of side panels **104** (which can comprise a first side panels **104***a*, and a second side panels **104***b*), a picker-agitator motor **106**, a front panel **108**, a frame **110**, a hinged lid **112** having two hinges **114**.

In one embodiment, said gin stand can comprise a huller gin stand, as is known in the art.

FIG. **2** illustrates a perspective rear view of said saw gin stand safety assembly **100** with said hinged lid **112** removed.

Said saw gin stand safety assembly **100** can further comprise a throat **200** for holding a fibrous material **208** such as cotton during the ginning process, and a front window **202** in said hinged lid **112**. Further wherein, by altering the size of said throat **200**, said saw gin stand safety assembly **100** can accommodate more than 10% increased ginning capacity as compared to the prior art.

In one embodiment, said second side panels **104***b* can comprise two agitator mounting plates **204** on either side of said saw gin stand safety assembly **100**. Further, each among said two agitator mounting plates **204** can comprise an agitator mounting aperture **206**.

FIG. **3** illustrates a perspective side view of said saw gin stand safety assembly **100** with said plurality of side panels **104** removed.

Said saw gin stand safety assembly **100** can further comprise a rotating ginning equipment **300**, as is known in the art. Said rotating ginning equipment **300** can comprise at least a picker roller **300***a*.

In one embodiment, said saw gin stand safety assembly **100** can further comprise a lower front window **302** in a lower front panel **304**. Said lower front window **302** can be arranged to display a status of said saw gin stand safety assembly **100** proximate to said rotating ginning equipment **300** and a lower portion of said throat **200**.

FIG. **4** illustrates an elevated side view of said saw gin stand safety assembly **100** with said plurality of side panels **104** removed.

As compared to the prior art, said throat **200** can comprise an upper cavity **400**. For illustrative purposes, a prior art lid height **402** is shown.

In one embodiment, said upper cavity **400** can be accessed by lifting said hinged lid **112** on said two hinges **114**.

In one embodiment, said saw gin stand safety assembly **100** can comprise said throat **200** having said upper cavity **400** comprising a cavity above said two hinges **114**.

In one embodiment, said picker-agitator motor **106** can comprise an independent motor on a variable frequency drive.

In one embodiment, said rotating ginning equipment **300** can further comprise an agitator **300***b*, a saw blade **300***c* and a blade cleaning brush assembly **300***d*, as is known in the art.

In one embodiment, said picker-agitator motor **106** can drive said picker roller **300***a* and said agitator **300***b* separate from other portions of said saw gin stand safety assembly **100**, such as said saw blade **300***c* and said blade cleaning brush assembly **300***d*. Accordingly, monitoring a load on **106** and adjusting a speed of said picker-agitator motor **106**, can vary a feed rate of said fibrous material **208** being fed into said saw gin stand safety assembly **100**, without slowing said saw blade **300***c* and said blade cleaning brush assembly **300***d*.

Likewise, said rotating ginning equipment **300** can further comprise an idler in connection with said picker roller **300***a*, said agitator **300***b*, said saw blade **300***c* and said blade cleaning brush assembly **300***d*; wherein, said idler can keep a belt between said rotating ginning equipment **300** tight. This additional part adds needless complexity and chance for damage to said saw gin stand safety assembly **100**. Whereas, said saw gin stand safety assembly **100** has eliminated the need for said idler in connection with said picker roller **300***a* and said agitator **300***b*.

In one embodiment, said saw gin stand safety assembly **100** can be configured to mount said picker-agitator motor **106** within said saw gin stand safety assembly **100** and in particular within a lower cavity **416**, as illustrated. As shown, said lower cavity **416** is within said front panel **108** and said hinged lid **112**. By placing said picker-agitator motor **106** within said lower cavity **416**, power can be applied to said picker roller **300***a* and said agitator **300***b* without an idler and lengthy belt, as is known in the art.

Said saw gin stand safety assembly **100** can further comprise a controller **406**. In one embodiment, said controller **406** can be used to monitor a load on said picker-agitator motor **106** and modify an input cotton flow **408** and or an RPM **414** of said picker-agitator motor **106** to minimize damage to said saw gin stand safety assembly **100** and said picker-agitator motor **106**.

In one embodiment, said saw gin stand safety assembly **100** can further comprise an amperage draw sensor **410**. In one embodiment, said amperage draw sensor **410** can be configured for monitoring an amperage draw signal **412** by said picker-agitator motor **106**.

In one embodiment, said amperage draw sensor **410** can be configured for reporting an amperage draw signal to said controller **406**; wherein, said controller **406** can reduce or increase said RPM **414** of said picker-agitator motor **106** so as to minimize clogs in said rotating ginning equipment **300** and said throat **200**.

An additional benefit of said saw gin stand safety assembly **100** can comprise the separation of drive motors from said picker roller **300***a* and said agitator **300***b* from the rest

of said saw gin stand safety assembly **100**. In so doing, said saw gin stand safety assembly **100** can monitor said picker-agitator motor **106** to ensure a steady flow of said agitator mounting aperture **206** without modifying the RPM of said saw blade **300***c* and said blade cleaning brush assembly **300***d*.

FIG. **5** illustrates a prior art gin stand **500**.

For illustrative purposes, said prior art gin stand **500** can comprise a representative example of gin stands prior to said saw gin stand safety assembly **100**. Novel features of said saw gin stand safety assembly **100** can comprise the addition of said lower front window **302**, an increased width and height of said throat **200**, programmability of said controller **406**.

Said lower front window **302** can function as a fire door for monitoring the status of said input cotton flow **408**, which is a fire danger in said saw gin stand safety assembly **100** and said prior art gin stand **500**. For example, said prior art gin stand **500** and similar machines are engineered to spin said rotating ginning equipment **300** at 885 RPM, but when seeds are removed from said input cotton flow **408**, they can often get caught in said rotating ginning equipment **300** and cause sparks and, ultimately, fire.

By controlling said RPM **414** of said input cotton flow **408** and said rotating ginning equipment **300** with said controller **406**, said saw gin stand safety assembly **100** can minimize an amp draw by said saw gin stand safety assembly **100** and thereby increase safety during cotton ginning.

In one embodiment, said throat **200** of said saw gin stand safety assembly **100** can comprise 3 inches additional space between said rotating ginning equipment **300** and said front panel **108** and 3 to 4 inches additional space at the top of said throat **200** in said upper cavity **400**. Further, by increasing the size of said throat **200**, said saw gin stand safety assembly **100** is configured to gin more cotton.

FIG. **6** illustrates a block diagram of an address space **600** of said controller **406**.

Said controller **406** can comprise said address space **600**; wherein, said address space **600** can comprise a memory **602** comprising a program **604**, a processor **606** and a communication hardware **608**.

In one embodiment, said program **604** can be programmed to control various aspects of said saw gin stand safety assembly **100**, such as the operation of said picker-agitator motor **106** and said rotating ginning equipment **300**.

In one embodiment, said program **604** can be configured for receiving an amperage draw status related to said picker-agitator motor **106**; and reducing or increasing said RPM **414** of said picker-agitator motor **106** so as to ensure smooth operation of said saw gin stand safety assembly **100** and to minimize clogs of said fibrous material **208** in said throat **200**.

FIG. **7** illustrates a perspective overview of said saw gin stand safety assembly **100**.

FIG. **8** illustrates elevated side view of said saw gin stand safety assembly **100**.

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 following paragraphs are included in reference to the claims and can be considered a preferred embodiment.

Said saw gin stand safety assembly **100** for holding said fibrous material **208** for ginning with said rotating ginning equipment **300**. Said saw gin stand safety assembly **100** comprises said outer shell **102**, said throat **200**, said picker-agitator motor **106**, said amperage draw sensor **410** and said rotating ginning equipment **300**. Said rotating ginning equipment **300** comprises at least said picker roller **300***a*. Said amperage draw sensor **410** monitors a power usage of said picker-agitator motor **106**. Said saw gin stand safety assembly **100** can be configured to adjust said RPM **414** of said picker-agitator motor **106** according to said amperage draw signal **412** generated by said amperage draw sensor **410**. Said throat **200** can be configured for holding said fibrous material **208** comprising cotton during the ginning process. Said saw gin stand safety assembly **100** can be configured for receiving said fibrous material in a portion of said throat **200**, channeling said fibrous material **208** downward through said throat **200** into said rotating ginning equipment **300**, rotating said picker-agitator motor **106**, monitoring said amperage draw signal **412** from said amperage draw sensor **410**, and adjusting said RPM **414** of said picker-agitator motor **106** according to said amperage draw signal **412**. Said saw gin stand safety assembly **100** further comprises said amperage draw sensor **410**. Said saw gin stand safety assembly **100** can be configured to adjust said RPM **414** of said picker-agitator motor **106** to avoid choaking of said fibrous material **208** in said rotating ginning equipment **300** and said throat **200**. Said saw gin stand safety assembly **100** comprises said picker roller **300***a* and said agitator **300***b* attached to and driven by said picker-agitator motor **106**. Said picker-agitator motor **106** can be configured to drive said picker roller **300***a* and said agitator **300***b* separate from other portions of said saw gin stand safety assembly **100**. Wherein, monitoring a load and adjusting a speed of said picker-agitator motor **106**, can vary a feed rate of said fibrous material **208** being fed into said saw gin stand safety assembly **100**, without slowing said saw blade **300***c* and said blade cleaning brush assembly **300***d*.

Said saw gin stand safety assembly **100** for holding said fibrous material **208** for ginning with said rotating ginning equipment **300**. Said saw gin stand safety assembly **100** comprises said outer shell **102**, said throat **200**, said picker-agitator motor **106**, said amperage draw sensor **410** and said rotating ginning equipment **300**. Said rotating ginning equipment **300** comprises at least said picker roller **300***a*. Said amperage draw sensor **410** monitors a power usage of said picker-agitator motor **106**. Said saw gin stand safety assembly **100** can be configured to adjust said RPM **414** of said picker-agitator motor **106** according to said amperage draw signal **412** generated by said amperage draw sensor **410**. Said throat **200** can be configured for holding said fibrous material **208** comprising cotton during the ginning process. Said saw gin stand safety assembly **100** can be configured for receiving said fibrous material in a portion of said throat **200**, channeling said fibrous material **208** downward through said throat **200** into said rotating ginning equipment **300**, rotating said picker-agitator motor **106**, monitoring said amperage draw signal **412** from said amper-

age draw sensor **410**, and adjusting said RPM **414** of said picker-agitator motor **106** according to said amperage draw signal **412**. Said saw gin stand safety assembly **100** further comprises said amperage draw sensor **410**. Said saw gin stand safety assembly **100** can be configured to adjust said RPM **414** of said picker-agitator motor **106** to avoid choaking of said fibrous material **208** in said rotating ginning equipment **300** and said throat **200**. Said saw gin stand safety assembly **100** comprises said picker roller **300***a* and said agitator **300***b* attached to and driven by said picker-agitator motor **106**. Said picker-agitator motor **106** can be configured to drive said picker roller **300***a* and said agitator **300***b* separate from other portions of said saw gin stand safety assembly **100**. Wherein, monitoring a load and adjusting a speed of said picker-agitator motor **106**, can vary a feed rate of said fibrous material **208** being fed into said saw gin stand safety assembly **100**, without slowing said saw blade **300***c* and said blade cleaning brush assembly **300***d*.

Said saw gin stand safety assembly **100** for holding said fibrous material **208** for ginning with said rotating ginning equipment **300**. Said saw gin stand safety assembly **100** comprises said outer shell **102**, said throat **200**, said picker-agitator motor **106**, said amperage draw sensor **410** and said rotating ginning equipment **300**. Said rotating ginning equipment **300** comprises at least said picker roller **300***a*. Said amperage draw sensor **410** monitors a power usage of said picker-agitator motor **106**. Said saw gin stand safety assembly **100** can be configured to adjust said RPM **414** of said picker-agitator motor **106** according to said amperage draw signal **412** generated by said amperage draw sensor **410**. Said throat **200** can be configured for holding said fibrous material **208** comprising cotton during the ginning process. Said saw gin stand safety assembly **100** can be configured for receiving said fibrous material in a portion of said throat **200**, channeling said fibrous material **208** downward through said throat **200** into said rotating ginning equipment **300**, rotating said picker-agitator motor **106**, monitoring said amperage draw signal **412** from said amperage draw sensor **410**, and adjusting said RPM **414** of said picker-agitator motor **106** according to said amperage draw signal **412**.

Said picker-agitator motor **106** and said rotating ginning equipment **300** can be in a direct drive relationship.

Said saw gin stand safety assembly **100** further comprises said amperage draw sensor **410**. Said saw gin stand safety assembly **100** can be configured to adjust said RPM **414** of said picker-agitator motor **106** to avoid choaking of said fibrous material **208** in said rotating ginning equipment **300** and said throat **200**.

Said controller **406** comprises said address space **600**. Said address space **600** comprises said memory **602** comprising said program **604**, said processor **606** and said communication hardware **608**. Said program **604** can be configured for receiving said amperage draw signal **412** related to said picker-agitator motor **106**. Calculating a change in said RPM **414** of said picker-agitator motor **106** to ensure smooth operation of said saw gin stand safety assembly **100** and to minimize clogs of said fibrous material **208** in said throat **200**.

Said saw gin stand safety assembly **100** further comprises said amperage draw sensor **410**. Said amperage draw sensor **410** can be configured for monitoring power usage by said picker-agitator motor **106**. Said amperage draw sensor **410** can be configured for reporting an amperage draw signal to said controller **406**. Said controller **406** can reduce or increase said RPM **414** of operation of said picker-agitator motor **106** to minimize clogs of said fibrous material **208** in said rotating ginning equipment **300** and said throat **200**.

Said rotating ginning equipment **300** comprises a picker roller.

Said saw gin stand safety assembly **100** comprises said plurality of side panels **104**. Said plurality of side panels **104** comprise said first side panels **104***a*, and said second side panels **104***b*.

Said saw gin stand safety assembly **100** comprises said picker-agitator motor **106**, said front panel **108**, said frame **110**, said hinged lid **112** having said two hinges **114**.

Said saw gin stand safety assembly **100** can be configured to further comprise said lower front window **302** in said lower front panel **304**. Said lower front window **302** can be arranged to display a status of said saw gin stand safety assembly **100** proximate to said rotating ginning equipment **300** and a lower portion of said throat **200**. Said lower front window **302** can be configured to function as a fire door for monitoring the status of said input cotton flow **408**, which can be a fire danger in said saw gin stand safety assembly **100**.

Said saw gin stand safety assembly **100** comprises said picker roller **300***a* and said agitator **300***b* attached to and driven by said picker-agitator motor **106**. Said picker-agitator motor **106** can be configured to drive said picker roller **300***a* and said agitator **300***b* separate from other portions of said saw gin stand safety assembly **100**. Wherein, monitoring a load and adjusting a speed of said picker-agitator motor **106**, can vary a feed rate of said fibrous material **208** being fed into said saw gin stand safety assembly **100**, without slowing said saw blade **300***c* and said blade cleaning brush assembly **300***d*.

Said saw gin stand safety assembly **100** can be configured to mount said picker-agitator motor **106** within said saw gin stand safety assembly **100** and in particular within said lower cavity **416**. Said lower cavity **416** can be within said front panel **108** and said hinged lid **112**. With said picker-agitator motor **106** within said lower cavity **416**, power can be applied to said picker roller **300***a* and said agitator **300***b* without an idler and lengthy belt.

Said throat **200** of said saw gin stand safety assembly **100** comprises 3 to 4 of space above said two hinges **114** and of said throat **200** in said upper cavity **400**.

Said saw gin stand safety assembly **100** for holding said fibrous material **208** for ginning with said rotating ginning equipment **300**. Said saw gin stand safety assembly **100** comprises said outer shell **102**, said throat **200**, said picker-agitator motor **106**, said amperage draw sensor **410** and said rotating ginning equipment **300**. Said rotating ginning equipment **300** comprises at least said picker roller **300***a*. Said amperage draw sensor **410** monitors a power usage of said picker-agitator motor **106**. Said saw gin stand safety assembly **100** can be configured to adjust said RPM **414** of said picker-agitator motor **106** according to said amperage draw signal **412** generated by said amperage draw sensor **410**. Said throat **200** can be configured for holding said fibrous material **208** comprising cotton during the ginning process. Said saw gin stand safety assembly **100** can be configured for receiving said fibrous material in a portion of said throat **200**, channeling said fibrous material **208** downward through said throat **200** into said rotating ginning equipment **300**, rotating said picker-agitator motor **106**, monitoring said amperage draw signal **412** from said amperage draw sensor **410**, and adjusting said RPM **414** of said picker-agitator motor **106** according to said amperage draw signal **412**. Said saw gin stand safety assembly **100** comprises said picker roller **300***a* and said agitator **300***b* attached

to and driven by said picker-agitator motor **106**. Said picker-agitator motor **106** can be configured to drive said picker roller **300***a* and said agitator **300***b* separate from other portions of said saw gin stand safety assembly **100**. Wherein, monitoring a load and adjusting a speed of said picker-agitator motor **106**, can vary a feed rate of said fibrous material **208** being fed into said saw gin stand safety assembly **100**, without slowing said saw blade **300***c* and said blade cleaning brush assembly **300***d*.

Said saw gin stand safety assembly **100** further comprises said amperage draw sensor **410**. Said saw gin stand safety assembly **100** can be configured to adjust said RPM **414** of said picker-agitator motor **106** to avoid choaking of said fibrous material **208** in said rotating ginning equipment **300** and said throat **200**.

Said controller **406** comprises said address space **600**. Said address space **600** comprises said memory **602** comprising said program **604**, said processor **606** and said communication hardware **608**. Said program **604** can be configured for receiving said amperage draw signal **412** related to said picker-agitator motor **106**. Calculating a change in said RPM **414** of said picker-agitator motor **106** to ensure smooth operation of said saw gin stand safety assembly **100** and to minimize clogs of said fibrous material **208** in said throat **200**.

Said saw gin stand safety assembly **100** further comprises said amperage draw sensor **410**. Said amperage draw sensor **410** can be configured for monitoring power usage by said picker-agitator motor **106**. Said amperage draw sensor **410** can be configured for reporting an amperage draw signal to said controller **406**. Said controller **406** can reduce or increase said RPM **414** of operation of said picker-agitator motor **106** to minimize clogs of said fibrous material **208** in said rotating ginning equipment **300** and said throat **200**.

The following list of the parts is provided for the convenience of the reader:

said saw gin stand safety assembly **100**,
said outer shell **102**,
said plurality of side panels **104**,
said first side panels **104***a*,
said second side panels **104***b*,
said picker-agitator motor **106**,
said front panel **108**,
said frame **110**,
said hinged lid **112**,
said two hinges **114**,
said throat **200**,
said fibrous material **208**,
said front window **202**,
said two agitator mounting plates **204**,
said agitator mounting aperture **206**,
said rotating ginning equipment **300**,
said picker roller **300***a*,
said lower front window **302**,
said lower front panel **304**,
said upper cavity **400**,
said prior art lid height **402**,
said agitator **300***b*,
said saw blade **300***c*,
said blade cleaning brush assembly **300***d*,
said lower cavity **416**,
said controller **406**,
said input cotton flow **408**,
said RPM **414**,
said amperage draw sensor **410**,
said amperage draw signal **412**,
said prior art gin stand **500**,
said address space **600**,
said memory **602**,
said program **604**,
said processor **606**, and
said communication hardware **608**.

The invention claimed is:

1. A saw gin stand safety assembly for holding a fibrous material for ginning with a rotating ginning equipment, wherein:

said saw gin stand safety assembly comprises an outer shell, a throat, a picker-agitator motor, an amperage draw sensor and said rotating ginning equipment;
said rotating ginning equipment comprises at least a picker roller;
said amperage draw sensor monitors a power usage of said picker-agitator motor;
said saw gin stand safety assembly is configured to adjust an RPM of said picker-agitator motor according to an amperage draw signal generated by said amperage draw sensor;
said throat is configured for holding said fibrous material comprising cotton during the ginning process;
said saw gin stand safety assembly is configured for
receiving said fibrous material in a portion of said throat,
channeling said fibrous material downward through said throat into said rotating ginning equipment,
rotating said picker-agitator motor,
monitoring said amperage draw signal from said amperage draw sensor, and
adjusting said RPM of said picker-agitator motor according to said amperage draw signal;
said saw gin stand safety assembly further comprises said amperage draw sensor;
said saw gin stand safety assembly is configured to adjust said RPM of said picker-agitator motor to avoid choaking of said fibrous material in said rotating ginning equipment and said throat;
said saw gin stand safety assembly comprises said picker roller and an agitator attached to and driven by said picker-agitator motor;
said picker-agitator motor is configured to drive said picker roller and said agitator separate from other portions of said saw gin stand safety assembly;
wherein, monitoring a load and adjusting a speed of said picker-agitator motor, can vary a feed rate of said fibrous material being fed into said saw gin stand safety assembly, without slowing a saw blade and a blade cleaning brush assembly.

2. A saw gin stand safety assembly for holding a fibrous material for ginning with a rotating ginning equipment, wherein:

said saw gin stand safety assembly comprises an outer shell, a throat, a picker-agitator motor, an amperage draw sensor and said rotating ginning equipment;
said rotating ginning equipment comprises at least a picker roller;
said amperage draw sensor monitors a power usage of said picker-agitator motor;
said saw gin stand safety assembly is configured to adjust an RPM of said picker-agitator motor according to an amperage draw signal generated by said amperage draw sensor;
said throat is configured for holding said fibrous material comprising cotton during the ginning process; and
said saw gin stand safety assembly is configured for

receiving said fibrous material in a portion of said throat,

channeling said fibrous material downward through said throat into said rotating ginning equipment,

rotating said picker-agitator motor,

monitoring said amperage draw signal from said amperage draw sensor, and

adjusting said RPM of said picker-agitator motor according to said amperage draw signal.

3. The saw gin stand safety assembly of claim **2**, wherein:

said picker-agitator motor and said rotating ginning equipment are in a direct drive relationship.

4. The saw gin stand safety assembly of claim **2**, wherein:

said saw gin stand safety assembly further comprises said amperage draw sensor; and

said saw gin stand safety assembly is configured to adjust said RPM of said picker-agitator motor to avoid choaking of said fibrous material in said rotating ginning equipment and said throat.

5. The saw gin stand safety assembly of claim **2**, wherein:

said saw gin stand safety assembly further comprises a controller having an address space;

said address space comprises a memory comprising a program, a processor and a communication hardware;

said program is configured for

receiving said amperage draw signal related to said picker-agitator motor; and

calculating a change in said RPM of said picker-agitator motor to ensure smooth operation of said saw gin stand safety assembly and to minimize clogs of said fibrous material in said throat.

6. The saw gin stand safety assembly of claim **5**, wherein:

said saw gin stand safety assembly further comprises said amperage draw sensor;

said amperage draw sensor is configured for monitoring power usage by said picker-agitator motor;

said amperage draw sensor is configured for reporting an amperage draw signal to said controller; and

said controller can reduce or increase said RPM of operation of said picker-agitator motor to minimize clogs of said fibrous material in said rotating ginning equipment and said throat.

7. The saw gin stand safety assembly of claim **2**, wherein:

said saw gin stand safety assembly comprises a plurality of side panels; and

said plurality of side panels comprise a first side panels, and a second side panels.

8. The saw gin stand safety assembly of claim **2**, wherein:

said saw gin stand safety assembly comprises said picker-agitator motor, a front panel, a frame, a hinged lid having two hinges.

9. The saw gin stand safety assembly of claim **2**, wherein:

said saw gin stand safety assembly is configured to further comprise a lower front window in a lower front panel;

said lower front window is arranged to display a status of said saw gin stand safety assembly proximate to said rotating ginning equipment and a lower portion of said throat; and

said lower front window is configured to function as a fire door for monitoring the status of an input cotton flow, which is a fire danger in said saw gin stand safety assembly.

10. The saw gin stand safety assembly of claim **2**, wherein:

said saw gin stand safety assembly comprises said picker roller and an agitator attached to and driven by said picker-agitator motor;

said picker-agitator motor is configured to drive said picker roller and said agitator separate from other portions of said saw gin stand safety assembly;

wherein, monitoring a load and adjusting a speed of said picker-agitator motor, can vary a feed rate of said fibrous material being fed into said saw gin stand safety assembly, without slowing a saw blade and a blade cleaning brush assembly.

11. The saw gin stand safety assembly of claim **2**, wherein:

said saw gin stand safety assembly is configured to mount said picker-agitator motor within said saw gin stand safety assembly and within a lower cavity;

said lower cavity is within a front panel and a hinged lid; and

with said picker-agitator motor within said lower cavity, power is applied to said picker roller and said agitator without an idler and belt.

12. The saw gin stand safety assembly of claim **2**, wherein:

said saw gin stand safety assembly comprises a hinged lid having two hinges; and

said throat of said saw gin stand safety assembly comprises an additional 3 to 4 inches of clearance above said two hinges and within said upper cavity.

13. A saw gin stand safety assembly for holding a fibrous material for ginning with a rotating ginning equipment, wherein:

said saw gin stand safety assembly comprises an outer shell, a throat, a picker-agitator motor, an amperage draw sensor and said rotating ginning equipment;

said rotating ginning equipment comprises at least a picker roller;

said amperage draw sensor monitors a power usage of said picker-agitator motor;

said saw gin stand safety assembly is configured to adjust an RPM of said picker-agitator motor according to an amperage draw signal generated by said amperage draw sensor;

said throat is configured for holding said fibrous material comprising cotton during the ginning process;

said saw gin stand safety assembly is configured for

receiving said fibrous material in a portion of said throat,

channeling said fibrous material downward through said throat into said rotating ginning equipment,

rotating said picker-agitator motor,

monitoring said amperage draw signal from said amperage draw sensor, and

adjusting said RPM of said picker-agitator motor according to said amperage draw signal;

said saw gin stand safety assembly comprises said picker roller and an agitator attached to and driven by said picker-agitator motor;

said picker-agitator motor is configured to drive said picker roller and said agitator separate from other portions of said saw gin stand safety assembly; and

wherein, monitoring a load and adjusting a speed of said picker-agitator motor, can vary a feed rate of said fibrous material being fed into said saw gin stand safety assembly, without slowing a saw blade and a blade cleaning brush assembly.

14. The saw gin stand safety assembly of claim **13**, wherein:

said saw gin stand safety assembly further comprises said amperage draw sensor; and

said saw gin stand safety assembly is configured to adjust said RPM of said picker-agitator motor to avoid choaking of said fibrous material in said rotating ginning equipment and said throat.

15. The saw gin stand safety assembly of claim **13**, wherein:

said saw gin stand safety assembly further comprises a controller having an address space;

said address space comprises a memory comprising a program, a processor and a communication hardware;

said program is configured for

receiving said amperage draw signal related to said picker-agitator motor; and

calculating a change in said RPM of said picker-agitator motor to ensure smooth operation of said saw gin stand safety assembly and to minimize clogs of said fibrous material in said throat.

16. The saw gin stand safety assembly of claim **15**, wherein:

said saw gin stand safety assembly further comprises said amperage draw sensor;

said amperage draw sensor is configured for monitoring power usage by said picker-agitator motor;

said amperage draw sensor is configured for reporting an amperage draw signal to said controller; and

said controller can reduce or increase said RPM of operation of said picker-agitator motor to minimize clogs of said fibrous material in said rotating ginning equipment and said throat.

17. The saw gin stand safety assembly of claim **13**, wherein:

said saw gin stand safety assembly is configured to mount said picker-agitator motor within said saw gin stand safety assembly and within a lower cavity;

said lower cavity is within a front panel and a hinged lid; and

with said picker-agitator motor within said lower cavity, power is applied to said picker roller and said agitator without an idler and belt.

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