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Assembly for Converting a Wheel Drive Harvester to Track Drive

Abstract

A track drive assembly for attachment to a vehicle having an undercarriage, the assembly including a continuous loop track having an interior space; a plurality of idler sprockets within the interior space; a chassis interconnecting the idler sprockets, the chassis having front and rear ends; a drive sprocket within the interior space, the drive sprocket overlying the chassis; “Y” bracket having a front “Y” arm, a rear “Y” arm, and a cylindrical “Y” column, each “Y” arm having a distal end; and a front fastener for attaching the distal end of the front “Y” arm to the front end of the chassis and a rear fastener for attaching the distal end of the rear “Y” arm to the rear end of the chassis, the front and rear fasteners securely mounting the “Y” bracket upon the chassis.

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Background/Summary

CLAIMS OF BENEFIT OF EARLIER FILED NON-PROVISIONAL AND PROVISIONAL APPLICATIONS [0001] This application constitutes a continued prosecution application filed pursuant to 35 U.S.C. Sec. 111(a) and 37 C.F.R. Sec. 1.53(b) of both U.S. Provisional Application No. 62/719,287, entitled “Assembly for Converting a Wheel Drive Harvester to Track Drive”, and filed with the U. S.P.T.O. on Aug. 17, 2018, and U.S. Non-provisional application Ser. No. 16/439,748, entitled “Assembly for Converting a Wheel Drive Harvester to Track Drive” and filed with the U.S.P.T.O. on Aug. 13, 2019, said non-provisional application having timely claimed the filing date of, benefit of, and priority from said provisional application. The inventors of and applicants under the instant continued prosecution application are one and the same as and are identical to the inventors and applicants named in said provisional and non-provisional patent applications. The specification of, disclosures of, and drawings of the instant continued prosecution application are substantially identical to the descriptions of, disclosures of, and drawings of said provisional and non-provisional applications. The instant continued prosecution application is filed while said non-provisional application is pending and prior to any abandonment of or issuance under said application.

FIELD OF THE INVENTION
[0002] This invention relates to self-propelled agricultural harvester vehicles and other types of heavy self-propelled vehicles. More particularly, this invention relates to apparatus and assemblies which are adapted for converting such vehicles from wheel and tire drive to continuous loop track drive.
BACKGROUND OF THE INVENTION
[0003] Commonly known and configured spindle type cotton harvesters have a forward cotton bole picking and processing row unit, and include left and right drive wheels positioned immediately rearwardly from the row unit. In many circumstances, a field of cotton which is ready to be harvested may be excessively wet and muddy. In such circumstances, a cotton farmer having available only a conventional wheel and tire driven cotton harvester may be undesirably forced to choose between driving the harvester over the muddy field and delaying the cotton harvest until the field dries. Such choice often imposes an undesirable dilemma, subjecting the cotton farmer to alternative risks of a harvester stuck in the mud in the cotton field, and loss of harvestable cotton due to a delaying the harvest for field drying.
[0004] Such undesirable wet field related cotton harvesting dilemmas give rise to the desirability of a mechanical capacity within a cotton harvester for alternatively including and utilizing a conventional wheel and tire drive system (for dry field harvesting) and a track drive system (for wet field harvesting). However, commonly known and configured cotton harvesters which include a conventional wheel and tire front drive assemblies often position their left and right drive wheels so far forwardly in relation to the row unit that an acceptably large track drive assemblies cannot be alternatively mounted at the former or de-installed locations of the drive wheels.
[0005] Also, a conversion of a wheel drive harvester to track drive often solely mounts the track

drive at or upon the rotary axis of the track's drive sprocket, resulting in undue stresses imposed upon a hub gear or final drive mounted to the harvester's chassis at that axial location.
[0006] The instant inventive assembly solves or ameliorates the problems and challenges discussed above by providing a specially adapted and configured mounting bracket which utilizes a cotton harvester's OEM wheel and hub gear mounts for track bracket support, and which adapts the harvester for utilizing appropriately rearwardly positioned left and right track drives. The instant inventive assembly additionally protects the harvester's hub gears by providing specialized pivoting “Y” brackets for mounting and supporting the interior chassis of the track drive assemblies at separate rotation or pivot axes which underlie the rotation axes of the track drive sprockets.

BRIEF SUMMARY OF THE INVENTION

[0007] A first structural component of the instant inventive assembly for retro-fitted conversion of, for example, a self-propelled cotton harvester from wheel drive to track drive may comprise a “U” brace or bracket. In a preferred embodiment, such bracket includes a laterally extending base having left and right ends. References to harvesters and cotton harvesters below are exemplary, and such references are intended to broadly refer to all types of tire driven self-propelled heavy vehicles which may suitably be retrofitted for track drive.
[0008] The assembly's “U” bracket component preferably has a left “U” arm and right “U” arm which are respectively fixedly attached to the left and right ends of the base, such “U” arms extending angularly upwardly. The angular upward extensions of the “U” bracket's arms allow the assembly to provide undergirding support to alternatively installed left and right continuous loop track assemblies while laterally spanning beneath and structurally clearing the harvester's chassis or undercarriage members.
[0009] In such embodiment, the “U” bracket's base component is seamed or segmented, the segments being laterally interconnected by an eyed mounting plate, threaded bolts, and threaded nuts combination fastener which allows the base and its laterally attached components to be assembled and disassembled in a modular fashion.
[0010] Further structural components of the instant inventive assembly comprise a left setback arm, and a right plurality of arms setback arm, such setback arms preferably being mirroringly identical to each other. In the preferred embodiment, a first arm of each of the setback arms comprises a longitudinally oblongated plate having front and rear ends. The rearward ends of the left and right setback arms are preferably respectively fixedly and rigidly attached to the extreme distal ends of the “U” bracket's left and right “U” arms.
[0011] The forward ends of the left and right arm pluralities' first setback arms preferably present specialized matrixes of mounting bolt receiving eyes. Matching matrixes of bolt receiving eyes may typically be found upon a conventional wheel driven cotton harvester's left and right hub gear or final drive mounting plates. Configuration of the setback arms' bolt receiving eyes to match bolt receiving eye patterns previously established upon the harvester's left and right hub gear mounting plates advantageously allows the front or forward ends of such arms to be bolted in place in the same manner as the former installations of the drive wheels which are replaced by the inventive assembly.
[0012] Downward extension arm components preferably extend downwardly from the distal ends of the “U” bracket's “U” arms. In the preferred embodiment, such downward extension arms support specially configured left and right “Y” brackets. Cylindrical columns or base portions of such “Y” brackets are rotatably mounted to distal or lower ends of the left and right downward extension arms, while front and rear arm components of the “Y” brackets support the track chassis and idler roller components of the alternatively provided left and right track drive assemblies.
[0013] Horizontal extension arm components may preferably extend leftwardly and rightwardly from the distal ends of the “U” bracket's left and right “U” arms. Such horizontal extension arms preferably support eyed mounting plates to which the harvester's left and right hub gears (previously de-installed from their forward tire supporting and driving positions) may be attached.

Accordingly, the horizontal extension arms rigidly support the track assembly's drive sprockets in a manner similar to the support of the formerly attached drive wheels. The provision of pivoting left and right “Y” bracket mounts for the track chassis support advantageously reduces stress exerted against the reinstalled hub gears which connect with and rotatably drive the tracks' drive sprockets. To facilitate independent pivoting motion of the track chassis with respect to the rotation axis of the drive sprocket, mechanical linkages between the drive sprocket and the chassis are preferably released.

[0014] As indicated above, a novel and useful aspect of the inventive assembly is its provision of track chassis engaging and supporting “Y” brackets which are pivotally mounted at below the distal ends of the “U” bracket's “U” arms. Such “Y” bracket pivot mounts allow the “U” bracket to dually support left and right track drive assemblies at both their drive sprockets and at their idler wheel supporting chassis. Such “Y” configured mounting structures advantageously allow the “U” bracket's support of the track's drive sprockets to be dedicated to rotatably driving those sprockets. While the rotary power is translated to the drive sprockets via interposed hub gears, the major support of the weight of the harvester is provided via the additionally provided track chassis supporting “Y” brackets. The retro-fitted track assemblies support the harvester without unduly stressing the sprocket rotating hub gears by allowing the weight supporting function of the hub gears to be bypassed and transferred to the underlying pivoting track support “Y” brackets.

[0015] In use of the instant inventive assembly, an operator of a cotton harvester who needs to use the harvester upon a wet field may easily and conveniently remove the harvester's drive wheels. Thereafter, the harvester's hub gears may be de-installed. Thereafter, the inventive “U” bracket may be conveniently bolted in place with the forward ends of the left and right setback arms being attached in a manner identical to the formerly attached hub gears. Thereafter, left and right track assemblies may be mounted upon the left and right horizontal extension arms with column portions of the track chassis supporting “Y” brackets attaching to the lower ends of the left and right downward extension arms, and with track drive sprockets attached (via interposed hub gears) to mounting plates at the laterally outer ends of the left and right horizontal extension arms. Following such installation, the harvester may be operated in a conventional fashion, but with additional floatation provided by the track assemblies.

[0016] During such conventional operation, the weight of the harvester is borne by the pivoting track support “Y” brackets, advantageously relieving stresses which may otherwise translate from the tracks to the “U” bracket via the sprocket driving hub gears.

[0017] In circumstances where the harvester's OEM hub gear mount is positioned far enough to the rear of the harvester's header to allow track installations, the “U” bracket component may be omitted and left and right horizontal extension arms combined with underlying pivoting “Y” bracket mounts may be directly installed upon the harvester's OEM hub gear and wheel mounting site. In such configuration, the above described left and right setback arms are not needed, there being no need to rearwardly adjust the position of the sprocket driving hub gears. In such configuration, the inventive assembly may suitably incorporate and install only the above described horizontal extension arms, downward extension arms and “Y” bracket components.

[0018] Accordingly, objects of the instant invention include the provision of an assembly for converting a wheel drive harvester to a track drive harvester, which incorporates structures as described above and which arranges those structures in relation to each other for the achievement of beneficial functions as described above.

[0019] Other and further objects, benefits, and advantages of the instant invention will become known to those skilled in the art upon review of the Detailed Description which follows, and upon review of the appended drawings.

Description

BRIEF DESCRIPTION OF THE DRAWINGS

[0020] FIG. **1** is a partial left side view of a prior art cotton harvester vehicle.

[0021] FIG. **2** is a partial undercarriage view of the harvester of FIG. **1**, the view showing structures rightwardly underlying the vehicle's left drive wheel.

[0022] FIG. **3** is a left side view of a prior art continuous loop track drive assembly.

[0023] FIG. **4** is a rear view of “U” bracket and “Y” bracket components of the instant inventive assembly.

[0024] FIG. **5** is a perspective view of a leftward half segment of the structure of FIG. **4**.

[0025] FIG. **6** is an alternative perspective view of the structure of FIG. **5**, the view of FIG. **6** further showing in background and in perspective view the continuous loop track drive assembly of FIG. **3**.

[0026] FIG. **7** is a left end view of the bracket assembly of FIG. **4**, the view of FIG. **7** further showing in partial side view the FIG. **1** cotton harvester to which such assembly has been alternatively mounted.

[0027] FIG. **8** redepicts the structure of FIG. **7**, the view of FIG. **8** further showing the continuous loop track drive assembly of FIG. **3** attached to and supported upon the cotton harvester.

DETAILED DESCRIPTION OF A PREFERRED EMBODIMENT

[0028] Referring now to the drawings and in particular to Drawing FIG. **1**, a prior art cotton picking and processing harvester has a laterally extending front row unit **2**. Functions of picking and processing cotton are performed by the row unit **2** through the action of barbed rotary spindles within the row unit. Cotton fiber which is mechanically doffed from the spindles is rearwardly blown and is formed within the rear of the harvester into a brick or bale module.

[0029] Left and right drive wheels **4** having mounted pneumatic tires **6** are conventionally mounted for driving the cotton harvester forwardly over cotton fields. Looking simultaneously to FIGS. **1** and **2**, each of the harvester's left and right drive wheel and tire **4**,**6** combinations is rigidly supported upon the vehicle's chassis or undercarriage **8** by means of a rigid mounting arm **13** to which a mounting plate **10** is rigidly attached. A hub gear or final drive assembly **12** including interior planetary gears (not depicted within views) is rigidly mounted to plate **10** by means of mounting bolts **11**, and the drive wheel **4**,**6** is mounted rotatably at the laterally outer face of such hub gear assembly **12**. Structure at the right side of the vehicle depicted in FIG. **1** mirrors and is substantially identical to the above described structures presented at the left side of the vehicle.

[0030] Where the cotton fields are overly wet and muddy, such drive wheels **4**,**6** may become undesirably submerged in mud, unduly degrading the field surface or rendering the harvester immobile. Such conventional drive wheel and tire assemblies **4**,**6** often have insufficient floatation on muddy ground, giving rise to a need for alternatively mounting upon the harvester a higher floatation continuous loop track drive assembly such as is depicted in FIG. **3**.

[0031] The FIG. **3** track assembly (referred to generally by Reference Arrow **14**) has an upper drive sprocket **16**, and has multiple idler sprockets **20** which are mounted to a longitudinal track chassis **18**. A continuous loop track **22** extends over the upper drive sprocket **16** and about the idler sprockets **20** so that such components reside at the interior of the continuous loop track. The track chassis **18** supports the idler sprockets **20**, and a pivoting mount of the chassis **18** and idler sprockets **20** assembly allows the track assembly **14** to deflect and “walk” over obstructions while the drive sprocket **16** continuously provides power and propulsion to the track **22**. The sprocket **16** is conventionally mounted to track chassis **18** by rotary bearing **17**.

[0032] Referring to FIGS. **3**-**6**, the instant inventive assembly advantageously provides an independent pivoting track support “Y” bracket **58**. The “Y” bracket **58** has front and rear “Y” arms **61** and **63** which engage the chassis **18** suitably via sliding lateral insertions into chassis frame sockets **19** and **21**. Such pin and socket joints **61**,**19**, and **63**,**21** are considered to be representative of other common and suitably substituted joint fasteners such as bolted plate mounts

(not depicted within views) and welded joints.
[0033] The “Y” bracket **58** is independently pivotally mounted upon a “U” bracket **30**,**32**,**40**,**42** by means of a cylindrical “Y” column **56** which functions as a pivot pin, such “Y” component being rotatably received within pivot sleeve **48**. As shown in FIG. **8**, distal ends of the “Y” arms **61** and **63** are held at their slidably inserted engagements with sockets **19** and **21** via nut and bolt fasteners **23** and **25**. The depicted nut and bolt fastened engagements of “Y” arms **61** and **63** with track chassis **18** are considered to be further representative of the commonly known means for mechanically fastening such arm structures to such chassis structures. Additional “Y” arms **59** and **60** (shown in dashed lines) may be provided for further support of the track chassis **18**.
[0034] The instant inventive assembly pivotally supports the track assembly **14** and the chassis **18** upon the “Y” bracket column **56** in lieu of exclusively supporting the track assembly at the rotary axis of the drive sprocket. A final drive component such as hub gear **12** shown in FIG. **2** is mounted between the drive sprocket **16** and a “U” bracket assembly **30**,**32**,**40**,**42** which is referred to generally by Reference Arrow **26**. Such hub gear mount conventionally causes a portion of the “U” bracket's support of the track assembly **14** (and the track assemblies' support of the weight of the harvester) to translate through such hub gear. The invention's provision of the underlying pivoting “Y” bracket **58** advantageously lessens out-of-axis stresses and torsion forces that are applied to the such hub gear **12** via the track assembly **14** and its drive sprocket **16**. The inventive “Y” bracket assembly allows the portion of the “U” bracket's track support which engages the drive sprocket **16** to substantially exclusively rotatably drive the sprocket, advantageously preventing the hub gear from additionally functioning as a member which must vertically support the mass of the harvester. The invention's dual “Y” bracket support of its left and right track drives **14** protects the sprocket driving hub gears **12** from premature wear and damage resulting from supporting the weight of the harvester during powered driving and turning of the harvester.
[0035] In addition to its performance of the function of isolating and relieving stresses exerted against sprocket driving hub gears, the instant inventive assembly solves mechanical interference problems associated with retrofitting cotton harvesters with track drives. Referring simultaneously to FIGS. **1**-**3**, it may be seen that mechanical interference may prevent the drive sprocket **16** of the prior art track assembly **14** from being mounted to hub gear **12** in the same manner as the former and de-installed mount of the wheel and tire **4**,**6**. Such mechanical interchange is prevented by the forward extensions of the track assembly **14** which include the forwardmost idler wheels **20** and the front transition of the continuous loop track **22**, such forward extensions undesirably impinging against and interfering with the rearward end of the row unit **2**. Referring to FIG. **4**, the instant inventive “U” bracket assembly **26** is adapted, in addition to its adaptation for performance of the above described hub gear stress relieving function, to resolve such row unit **2**/track **14** interference.
[0036] The assembly **26** conveniently and easily allows track assemblies **14** to be mounted in place of the harvester's conventional drive wheels **4**,**6**. A major structural component of the “U” bracket assembly **26** comprises a “U” base member which is referred to generally by Reference Arrow **28**. In a preferred embodiment, the “U” base **28** comprises a laterally extending portion **30**,**32** which is segmented and is rigidly interconnected by a fastening assembly including mounting plates **34**,**36** and nut and bolt fasteners **38**. Referring further simultaneously to FIG. **5**, bolts **38** extend laterally through bolt receiving eyes **35** within plates **34** and **36**. While the base member **28** component of the “U” bracket **26** may suitably comprise a rigid and continuous laterally extending beam, such base member is preferably segmented and removably interconnected as indicated in FIG. **4** in order to allow for modular and convenient assembly and disassembly.
[0037] Further structural components of the assembly's “U” bracket **26** comprise left and right “U” arms **40** and **49** which are respectively fixedly attached to the left and right ends of the “U” base member **28**. In the preferred embodiment, each of the “U” arms **40** and **49** extends upwardly at a 35°-45° angle, such arms respectively extending leftwardly and rightwardly. The upward extensions of arms **40** and **49** advantageously allow the “U” bracket **26** to be mounted without

structural interference beneath the cotton harvester's chassis.
[0038] Referring simultaneously to FIGS. **4**-**6**, a further structural component of the instant inventive assembly comprises a left plurality of varyingly extending arms, such arm plurality being referred to generally by Reference Arrow **41**. The left arm plurality **41** preferably comprises first, second, and third arms which are respectively referred to generally by Reference Numerals **42**,**46**, and **54**, each of such arms having a proximal end which is rigidly mounted to the distal end of the "U" bracket's left arm **40**.
[0039] A first arm **42** of the left plurality of arms **41** functions as a rear setback arm, such arm preferably comprising a heavy steel longitudinally oblongated plate whose rearward end is rigidly welded to the distal end of arm **40**, and whose forward end presents a specialized matrix of bolt receiving eyes **44**. The longitudinal or front to rear dimension of such setback arm **42** is preferably specially fitted with respect to the longitudinal length of a track assembly, such as track assembly **14** of FIG. **3**, to be installed upon the harvester. Correct sizing of the longitudinal dimension of arm **42** assures that the front end of such installed track assembly will clear and avoid interference with the rearward end of the harvester's row unit **2**. Where there is no mechanical interference between the tracks **14** and the row unit **2**, the rearward position adjusting setback arms of the invention's left and right arm pluralities may be omitted.
[0040] Referring to FIG. **2**, it may be seen that the harvester's left hub gear mounting plate **10** includes a matrix of bolt receiving eyes for receipt of mounting bolts **11**. As manufactured, the intended function of plate **10** is to facilitate a rigid mount of a left hub gear or final drive assembly **12** upon chassis members **8**. In the preferred embodiment of the instant inventive assembly, the specialized matrix of bolt receiving eyes **44** which is formed at the forward end of setback arm **42** is substantially identical to the matrix of eyes within mounting plate **10**. Such matching of bolt receiving eye patterns advantageously allow the forward end of the left setback arm **42** to be rigidly bolted to mounting plate **10** in the same manner as the former or de-installed mount of hub gear **12** upon such plate. Nut and bolt fasteners **47** shown in FIG. **7** demonstrate such setback arm **42** to plate **10** mount.
[0041] Referring to FIG. **6**, the second arm **46** of the assembly's left plurality of arms **41** preferably comprises a downward extension arm which extends downwardly from the distal end of the left "U" arm **40**, such downward extension arm **46** preferably rigidly mounting and supporting a pivot sleeve **48**. Referring further to FIG. **7**, such sleeve **48** forms and defines a laterally opening "Y" bracket column receiving rotary bearing or bore **57**, the pivot sleeve **48** receiving and rotatably supporting the cylindrical pivot pin or axle configured "Y" bracket column **56** within bore **57**. The laterally outer end of the "Y" bracket column **56** rigidly supports proximal ends of the "Y" bracket's front and rear arms, the distal ends of which are suitably configured as slide pins **61** and **63**. Such "Y" bracket arm distal ends **61** and **63** are specially adapted for engaging and supporting a specially configured track chassis member (such as chassis **18**). In the "Y" bracket **58**/track chassis **18** engagement example of FIGS. **3**, **6**, and **8**, "Y" bracket arm distal ends **61** and **63** slidably insert into and are received within tubular chassis voids **19** and **21** in the manner of pin and socket joints. In such slidably received engagements, the extreme distal ends of the "Y bracket arms **61** and **63** may be secured against lateral sliding extractions with respect to chassis **18** by cap plate, nut and bolt fasteners **23** and **25**. The "Y" bracket arm to chassis engagement depicted in FIGS. **3**, **6**, **8**, is intended to be representative of other commonly known fasteners such as eyed mounting plate and bolt combination fasteners (not depicted within views) and welded joints which may suitably alternatively securely interconnect the pivoting "Y" bracket and the track's chassis. The dashed line arms **60** and **59** shown in dashed lines in FIGS. **4**, **5**, and **6** suitably constitute additional "Y" arms which, similarly with arms **61** and **63**, may be slidably received and secured within chassis voids **71** and **73**.
[0042] The exemplary left track drive assembly **14** is supported at the left end of "U" bracket **26** by the pivotally mounted "Y" bracket **56**, such mount facilitating pitching and counter-pitching

motions of the track assembly **14** with respect to the “U” bracket **26** and the harvester. Such pivoting “Y” bracket pin mount **56** advantageously allows the inventive assembly to support the weight of the harvester without translating the weight through overlying hub gears. Referring simultaneously to FIGS. **3**, **5**, and **8**, independent pivoting of the “Y” bracket **58** and its attached track **14** with respect to the “U” bracket **26** is preferably actuated via removal of the rotary bearing **17** interconnection of sprocket **16** and track chassis **18**.

[0043] The third arm **54** of the assembly's left plurality of arms **41** preferably comprises a rigid horizontal extension arm or column **54** which is fixedly attached to and extends leftwardly from the rearward end of setback arm **42** and/or from the distal end of “U” arm **40**. In a preferred embodiment, a mounting plate **50** having a matrix of bolt receiving eyes **52** is rigidly mounted to the leftward or distal end of the horizontal extension arm **54**. Such mounting plate **50** preferably includes a matrix of bolt receiving eyes **52** which is configured substantially identically with that of the hub gear mounting plate **10**, and with eye matrix **44**. Such matching configuration of the eye matrix of plate **50** advantageously allows the harvester's left hub gear **12** to be de-installed from plate **10** and to be rearwardly and laterally outwardly reinstalled upon mounting plate **50**. In such reinstallation of hub gear **12**, the same mounting bolts **11** which were formerly utilized to mount the hub gear upon mounting plate **10** may be utilized for the alternative mount of the hub gear upon the horizontal extension arm **54**. In the preferred embodiment, the drive sprocket **16** of track assembly **14** is mounted to such reinstalled hub gear **12** in the same manner as the former attachment of wheel and tire **4**,**6** thereto.

[0044] In a preferred embodiment, the downward extension arm component **46** of the left arm triple **41** further comprises and incorporates a downward extension **51** of plate **50**, such extension **51** advantageously providing additional support to the laterally outer or leftward end of pivot sleeve **48**. Also in the preferred embodiment, the left setback arm **42** includes a drive shaft passage aperture **45** for facilitation of a laterally leftward extension of a rotary drive shaft (not depicted within views) for powering the reinstalled hub gear **12**.

[0045] Referring to FIG. **6**, the second arm **46** of the assembly's left plurality of arms **41** preferably comprises a downward extension arm which extends downwardly from the distal end of the left “U” arm **40**, such downward extension arm **46** preferably rigidly mounting and supporting a pivot sleeve **48**. Referring further to FIG. **7**, such sleeve **48** forms and defines a laterally opening “Y” bracket column receiving rotary bearing or bore **57**, the pivot sleeve **48** receiving and rotatably supporting the cylindrical pivot pin or axle configured “Y” bracket column **56** within bore **57**. The laterally outer end of the “Y” bracket column **56** rigidly supports proximal ends of the “Y” bracket's front and rear arms, the distal ends of which are suitably configured as slide pins **61** and **63**. Such “Y” bracket arm distal ends **61** and **63** are specially adapted for engaging and supporting a specially configured track chassis member (such as chassis **18**). In the “Y” bracket **58**/track chassis **18** engagement example of FIGS. **3**, **6**, and **8**, “Y” bracket arm distal ends **61** and **63** slidably insert into and are received within tubular chassis voids **19** and **21** in the manner of pin and socket joints. In such slidably received engagements, the extreme distal ends of the “Y bracket arms **61** and **63** may be secured against lateral sliding extractions with respect to chassis **18** by cap plate, nut and bolt fasteners **23** and **25**. The “Y” bracket arm to chassis engagement depicted in FIGS. **3**, **6**, **8**, is intended to be representative of other commonly known fasteners such as eyed mounting plate and bolt combination fasteners (not depicted within views) and welded joints which may suitably alternatively securely interconnect the pivoting “Y” bracket and the track's chassis. The dashed line arms **60** and **59** shown in dashed lines in FIGS. **4**, **5**, and **6** suitably constitute additional “Y” arms which, similarly with arms **61** and **63**, may be slidably received and secured within chassis voids **71** and **73**.

[0046] Referring to FIG. **7**, in order to oppose counterclockwise (according to view) torsion of left setback arm **42** about shaft **13** and about mounting bolts **47**, a vertical strut **80** (shown in dashed lines) may extend upwardly from the left horizontal extension arm **54** to an overlying buttressing

point **82** upon the frame of the harvester. Alternatively, the lower end of such strut may be anchored upon the distal end of the left “U” arm **40**. A similarly configured strut (not within views) may buttress and oppose torque exerted by the right setback arm **62**.
[0047] A reversal of the de-installation and installation steps described above easily and conveniently reconfigures the harvester from track drive to conventional wheel drive.
[0048] While the principles of the invention have been made clear in the above illustrative embodiment, those skilled in the art may make modifications to the structure, arrangement, portions and components of the invention without departing from those principles. Accordingly, it is intended that the description and drawings be interpreted as illustrative and not in the limiting sense, and that the invention be given a scope commensurate with the appended claims.

Claims

1: A track drive assembly for attachment to a vehicle having an undercarriage, said assembly comprising: (a) a continuous loop track having an interior space; (b) a plurality of idler sprockets within the interior space; (c) a chassis interconnecting the idler sprockets, the chassis having front and rear ends; (d) a drive sprocket within the interior space, the drive sprocket overlying the chassis; (e) a “Y” bracket having a front “Y” arm, a rear “Y” arm, and a cylindrical “Y” column, each “Y” arm having a distal end; and (f) means for attaching the distal end of the front “Y” arm to the front end of the chassis and means for attaching the distal end of the rear “Y” arm to the rear end of the chassis, said means securely mounting the “Y” bracket upon the chassis.
2: The vehicle track drive assembly of claim 1 wherein the attaching means comprise a fastener selected from the group consisting of bolted plate mounts, pin and socket joints, and welded joints.
3: The vehicle track assembly of claim 2 further comprising a final drive fixedly attached to the drive sprocket.
4: The vehicle track assembly of claim 3 further comprising a bearing sleeve rotatably receiving the “Y” bracket's cylindrical “Y” column.
5: The vehicle track assembly of claim 4 further comprising a final drive mount fixedly attached to the vehicle's undercarriage, and a bearing sleeve mount fixedly attached to the vehicle's undercarriage, said mounts positioning the final drive and the bearing sleeve at a lateral side of the vehicle.
6: The vehicle track assembly of claim 5 wherein the final drive and bearing sleeves are adapted for orienting the bearing sleeve and the “Y” bracket's cylindrical “Y” column below the final drive.