C. W. GENUNG.

MULTIPLE SEEDER ATTACHMENT FOR GARDEN TRACTORS.

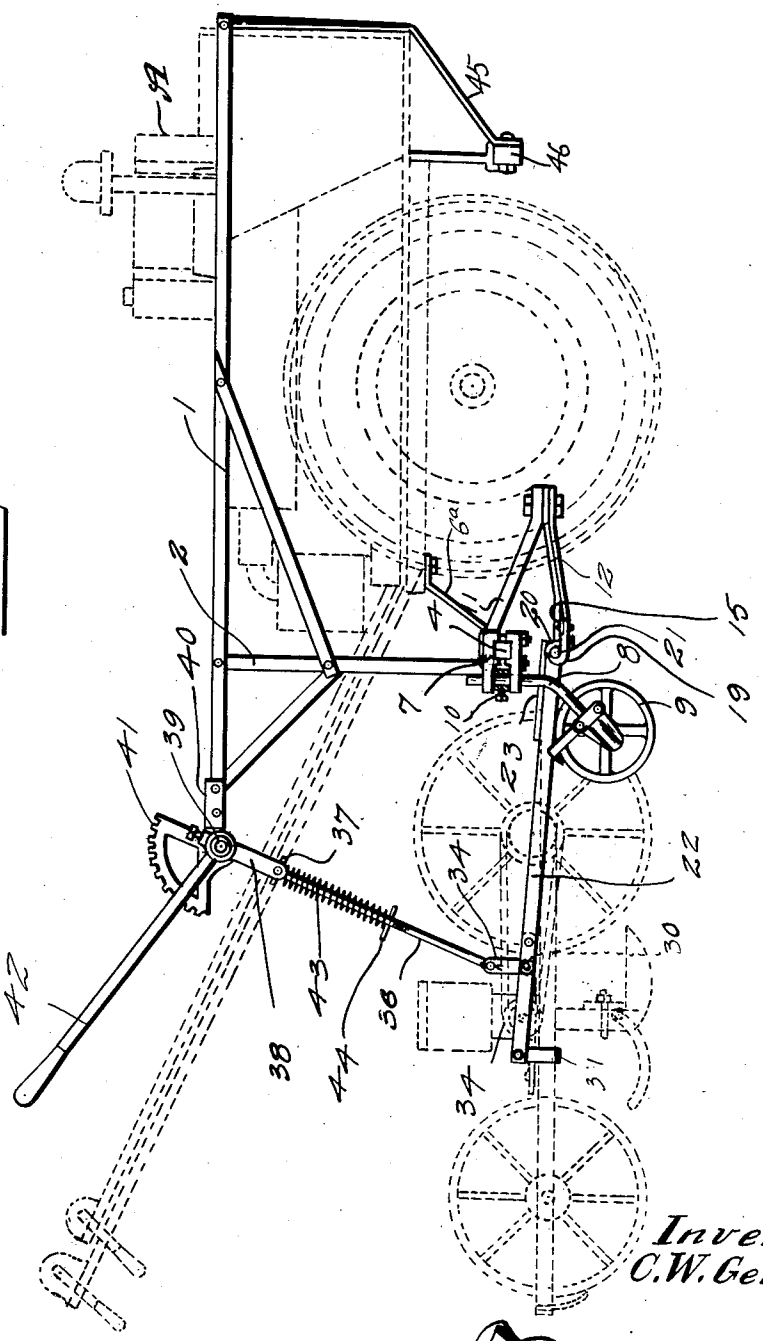
APPLICATION FILED MAY 24, 1919.

1,348,862.

Patented Aug. 10, 1920.

4 SHEETS—SHEET 1.

Fig. 1.



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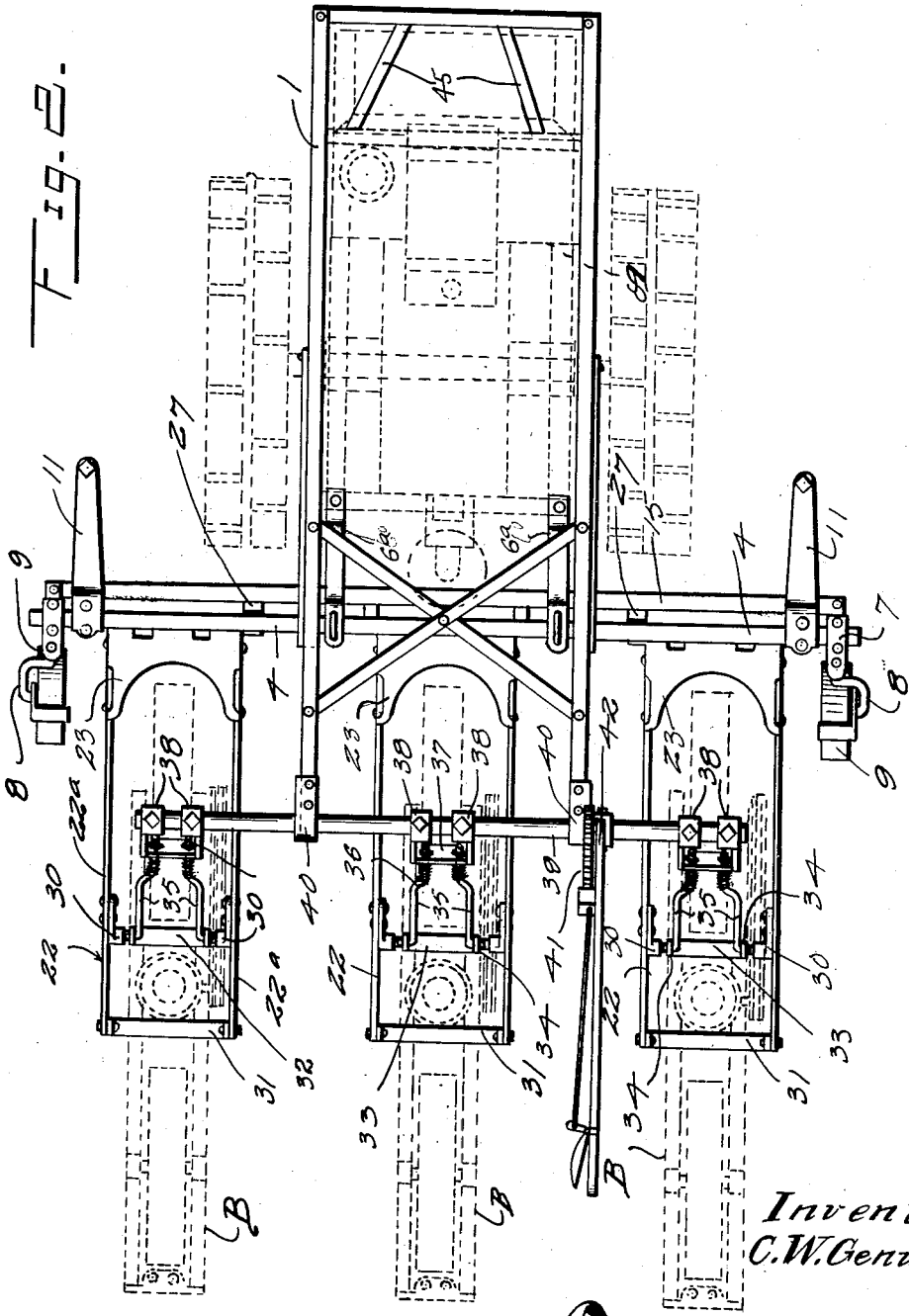
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4 SHEETS—SHEET 2.

Fig. 2.



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4 SHEETS—SHEET 3.

Fig. 3.

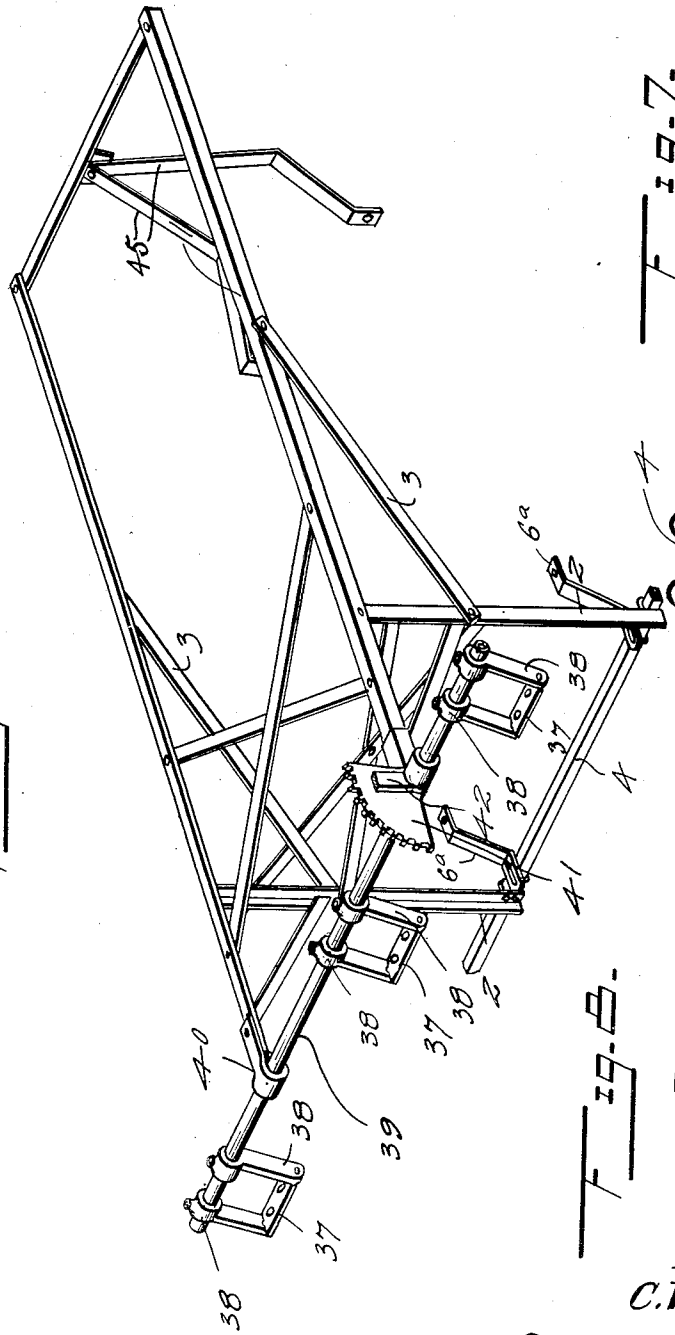


Fig. 7.

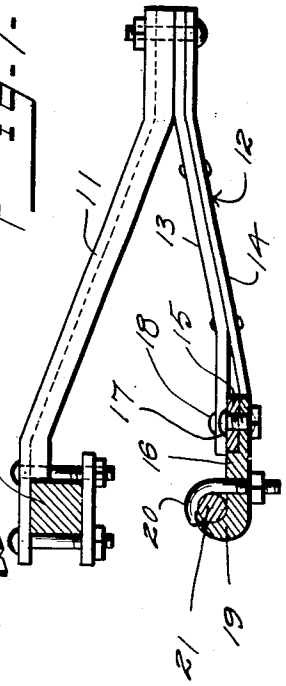
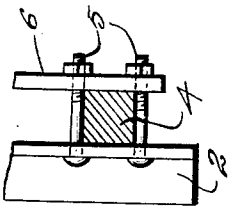


Fig. 8.



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4 SHEETS—SHEET 4.

Fig. 4.

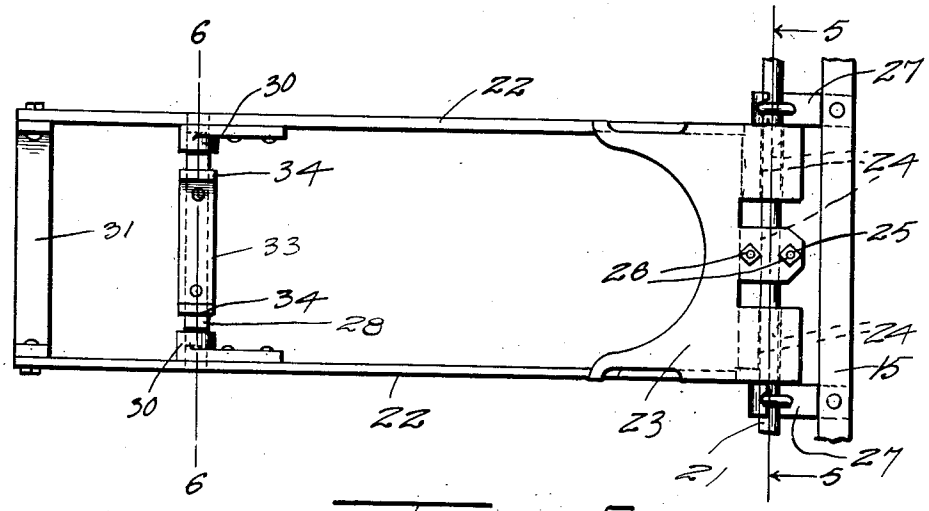


Fig. 5.

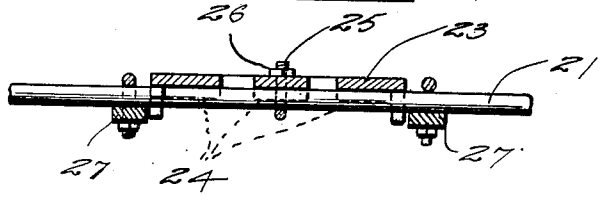
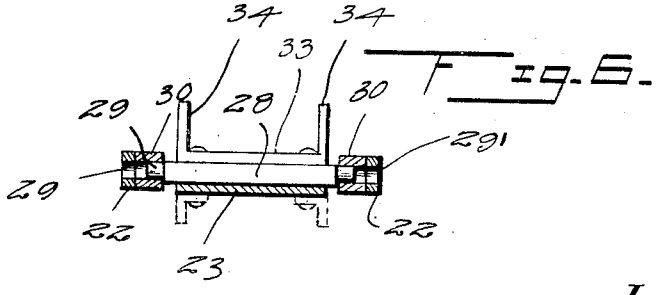


Fig. 6.



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UNITED STATES PATENT OFFICE.

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MULTIPLE-SEEDER ATTACHMENT FOR GARDEN-TRACTORS.

1,348,862. Specification of Letters Patent. Patented Aug. 10, 1920.

Application filed May 24, 1919. Serial No. 299,514.

To all whom it may concern:

Be it known that I, CHARLES W. GENUNG, a citizen of the United States, residing at Madison, in the county of Lake and State of Ohio, have invented certain new and useful Improvements in Multiple-Seeder Attachments for Garden-Tractors; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to attaching means, and more particularly to means specially adapted for attaching a plurality of seeders to a garden tractor so as to form a seeder of the gang type.

One of the main objects of the invention is to provide an attaching means of simple construction and operation which may be readily applied to a tractor of standard construction and by means of which a plurality of seeders may be connected to the tractor so as to be drawn thereby. A further object is to provide an attaching means adapted for use in connection with seeders of standard construction and which may be applied without necessitating changes in the construction of the seeder itself. Further objects will appear from the detailed description.

In the drawings:

Figure 1 is a side view of an attaching means constructed in accordance with my invention as applied.

Fig. 2 is a top plan view.

Fig. 3 is a perspective detail of the attaching frame and parts associated therewith.

Fig. 4 is a plan view of one of the pulling frames and the means for attaching the same to the pull bar.

Fig. 5 is a section taken substantially on line 5—5 of Fig. 4.

Fig. 6 is a section taken substantially on line 6—6 of Fig. 4.

Fig. 7 is a transverse vertical section through the supporting bar and the pull bar and the parts associated therewith.

Fig. 8 is a detail of the means for securing one of the supporting arms to the supporting ear.

In carrying my invention into effect I provide a substantially rectangular attaching frame 1 constructed of angle iron and suitably braced so as to provide a light but strong and rigid structure. This frame is adapted to fit over and about a garden tractor A of standard construction, that illustrated being the Beeman garden tractor manufactured by the Beeman Garden Tractor Company of Minneapolis, Minnesota, and this attaching means is specially adapted for use in connection with this tractor. The frame 1, which fits about the tractor and may be secured thereto in any suitable manner, extends rearwardly from the tractor and is provided, adjacent its rearward end, with two depending arms 2 of angular construction which are rigidly held in vertical position by inclined brace bars 3 secured thereto and to the frame. These arms carry, adjacent their lower ends, a transversely extending supporting bar 4 of rectangular cross section secured to the arms by suitable bolts 5 and a clamping plate 6 in the known manner. The bar 4 is secured to the tractor frame by clips 6^a. This bar carries, adjacent each end, a sectional bearing clamp 7 detachably secured about the bar and adapted to receive the upwardly extending standard 8 of a ground wheel 9, this standard being provided with a collar 10 secured thereon between the sections of clamp 7 so as to permit rocking of the wheel 9 about the axis of standard 8, these wheels serving to support the rearward end portion of the attaching frame 1.

An attaching arm 11 is detachably secured, at its rearward end, to supporting bar 4 adjacent each of the bearing clamps 7. The arms 11 extend forwardly from the supporting bar at each side of the tractor A, and are secured at their forward ends to the forward ends of resilient attaching arms 12 composed of upper and lower strap metal elements 13 and 14, respectively, the end portions of which are angularly disposed so as to provide a resilient attaching member. The rearward ends of resilient arms 12 are positioned above and below a securing strip 15 supported in parallel relation to, and slightly in advance of, bar 4 by supporting and securing members 16 the forward end portions of which are recessed to receive strip 15, securing screws 17 being passed through the strip and through members 16. The members 13 and 14 of the resilient attaching arm 12 are secured to this strip by securing screws 18 inserted through these members and the strip, as in Fig. 7. The rearward portion of the securing and supporting member 16 is turned upwardly and

forwardly to provide a hook element 19 which coöperates with a screw hook 20 the shank of which passes through an opening in the member 16, to secure this member to a pull rod 21 positioned in rear of and parallel with strip 15. By this means, the pull rod is resiliently connected to the supporting bar 4 so as to have independent vertical movement while being normally maintained in predetermined relation to this bar.

The pull rod 21 is adapted to receive a plurality of pulling frames 22 the forward ends of which are loosely secured to this rod. Each of these frames is of rectangular outline and and is provided, at its forward end, with a cast attaching plate 23 secured therein, this plate being provided on its under face and adjacent the forward end thereof, with alined depending arcuate flanges 24 which form bearings to receive the pull rod 21, a U-clip 25 being passed about the pull rod 21 at the central portion of the plate 23, the arms of this U passing through openings of the plate and being threaded to receive securing nuts 26 by means of which the frame 23 is attached to the rod. This provides means whereby the pulling frames 22 may be readily attached to the pull rod 21 so as to be freely rockable about the same. Suitable stop members designated generally by 27 are secured about the pull rod adjacent each side bar 22^a of the central pulling frame so as to hold the same against movement longitudinally of rod 21, similar members being secured about the rod adjacent the inner side of each of the outer pulling frames and coöperating with the members 16 and screw hooks 20 for holding these outer frames against lateral movement. The three pulling frames are thus readily secured to the pull rod so as to be held in parallel spaced relation, all of these frames being freely rockable about the pull rod so as to permit vertical movement of the seeder to which the frames are attached to accommodate irregularities in the ground surface.

The pulling frame 22 is adapted to fit about the forward portion of the frame of a garden seeder B of standard construction, the seeder employed being preferably that made by the Beeman company and known as the Beeman garden seeder. The construction of this seeder is not changed, but the usual handles are removed and a block 28 is secured across the seeder frame at the central portion thereof, this block having its end portions reduced to provide gudgeons 29 adapted to fit into bearing sleeves 30 secured to the inner faces of the side arms 22^a of frame 22, these arms being provided with openings 29′ in alinement with the openings of sleeves. The rearward ends of the arms of frame 22 are connected by a U-member or stirrup 31 which is adapted to be passed beneath the frame of the seeder, the upper ends of the arms of this stirrup being detachably secured to the rearward ends of arms 22^a of frame 22. In applying the frame 22, the arms thereof are sprung apart and the sleeves 30 fitted over the gudgeons 29, after which stirrup 31 is passed beneath the frame of the seeder and secured to the rearward ends of arms 22^a, as illustrated.

The U-bracket 32 has its bight portion secured to the block 28, on the upper face thereof, the arms 34 of this bracket being directed upwardly and apertured to receive the angularly disposed lower end portions of adjusting rods 35 which are bent inwardly to provide shoulders 36, these rods being then extended through spaced openings in a pressure plate 37 rockably supported between a pair of hangers 38 adjustably secured on an adjusting shaft 39 rockable in bearing collars 40 secured to the rearward ends of the side bars of frame 1. An arcuate rack 41 is rigidly secured to one of the collars 40 and coacts with a spring pressed detent carried by an adjusting lever 42 secured on the shaft 39 to hold this shaft in rocked adjustment. Each of the adjusting rods 36 is provided with a limiting member or nut secured on the upper end thereof above the pressure plate 37 so as to limit downward movement of the rod through the plate, and an expansion coil spring 43 is mounted about the rod and is confined between plate 37 and a pin 44 passed through the rod at the shoulder formed therein. By rocking the lever 42 upwardly all of the seeders will be simultaneously raised into inoperative position out of engagement with the ground surface, the pulling frames 22 rocking about pull rod 21 in the manner described. When the seeders are lowered into operative position they travel upon the ground surfaces in the well known manner, and these seeders may rise and fall independently of each other to accommodate obstructions or irregularities in the ground surface.

Two attaching bars 45 of strap metal are secured at their upper ends to the front bar of frame 1, these bars being inclined downwardly and outwardly and having their lower ends secured to a bar 46 corresponding to bar 4, carried by the tractor adjacent the forward end thereof. These attaching bars provide means whereby the frame 1 may be quickly and easily attached to or detached from the tractor.

By means of the attaching frame and the parts associated therewith, it is possible to readily attach a plurality of seeders to a garden tractor in parallel spaced relation so as to form a seeder of the gang type thus greatly facilitating the planting operation. This attachment of the seeders to form a gang to the tractor may be readily effected without any material changes in the con-

struction of either the tractor or the seeder, and for this reason, my attaching device is well adapted for use in connection with tractors and seeders of standard construction.

What I claim is:

1. In seeder attaching means, an attaching frame adapted to fit about a tractor, depending arms carried by said frame in rear of the tractor, a supporting bar secured to said arms, attaching arms carried by the bar and extending forwardly thereof, rearwardly extending resilient attaching arms secured at their forward ends to the forward ends of the first mentioned attaching arms, a pull rod carried by said resilient arms at the rearward ends thereof, and means for attaching a plurality of seeders to the pull rod in parallel spaced relation so as to permit independent rise and fall thereof when the seeders are in lowered position, said means being adapted to permit raising of the seeders into inoperative position.

2. A seeder attaching means comprising a tractor engaging frame including rearwardly extending side bars, depending arms connected with the side bars, a supporting bar connected with the depending arms and extending transversely of the tractor engaging frame, a pull rod extending longitudinally of and beneath the supporting bar, means yieldably connecting the pull rod with the supporting bar, a shaft rotatably connected with the rear end portions of the side bars of said frame and extending transversely of the frame, seeder engaging frames connected with the pull rod for independent pivotal movement thereon, means for rotating said shaft and retaining the same in an adjusted position, and yieldably connecting elements connecting the seeder engaging frames with said shaft to simultaneously raise the seeder engaging frames when the shaft is rotated.

3. A seeder attaching device comprising a tractor engaging frame, a transversely extending shaft rotatably connected with said frame, yokes rigidly connected with the shaft, means for rotating the shaft and releasably retaining the shaft in an adjusted position, a transversely extending supporting bar connected with the frame, a pull rod extending longitudinally of and beneath the supporting bar, resilient supporting arms for the pull rod connected with the supporting bar, seeder engaging frames connected with the pull rod for independent movement thereon, hanger rods pivotally connected with the seeder engaging frames and slidably connected with the yokes and limited in their downward sliding movement, and resilient means yieldably retaining the hanger rods against upward sliding movement, the resilient means permitting independent vertical movement of the seeder engaging frame and said shaft when rotated simultaneously imparting vertical movement to the seeder engaging frames through the medium of said yokes and said hanger rods.

4. A seeder attaching device comprising a tractor engaging frame, a supporting bar connected with the frame, a pull rod, resilient supporting arms for the pull rod connected with the supporting bar, a seeder engaging frame pivotally connected with the pull rod for independent movement, and means for simultaneously adjusting the positions of the seeder engaging frame.

5. A seeder attaching device comprising a tractor engaging frame, a supporting bar connected with the frame, a pull rod, supporting means for the pull rod connected with the supporting bar, seeder engaging frames connected with the pull rods for independent swinging movement thereon, the seeder engaging frames each having side bars, a depending yoke connected with the rear end portion of the side bars, a bracket extending between the side bars and pivotally connected with the frame, a shaft rotatably connected with the tractor engaging frame and having arm extensions, hanger rods pivotally connected with the brackets of the seeder engaging frames and slidably connected with the arm extensions of said shaft, and resilient means carried by the hanger rods and engaging the arm extensions to yieldably retain the hanger rods against upward sliding movement.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES W. GENUNG.

Witnesses:
W. W. HELLARD,
F. C. BLOOD.