No. 746,738. PATENTED DEC. 15, 1903.

W. E. PELTON.

CORN HARVESTER.

APPLICATION FILED MAR. 31, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

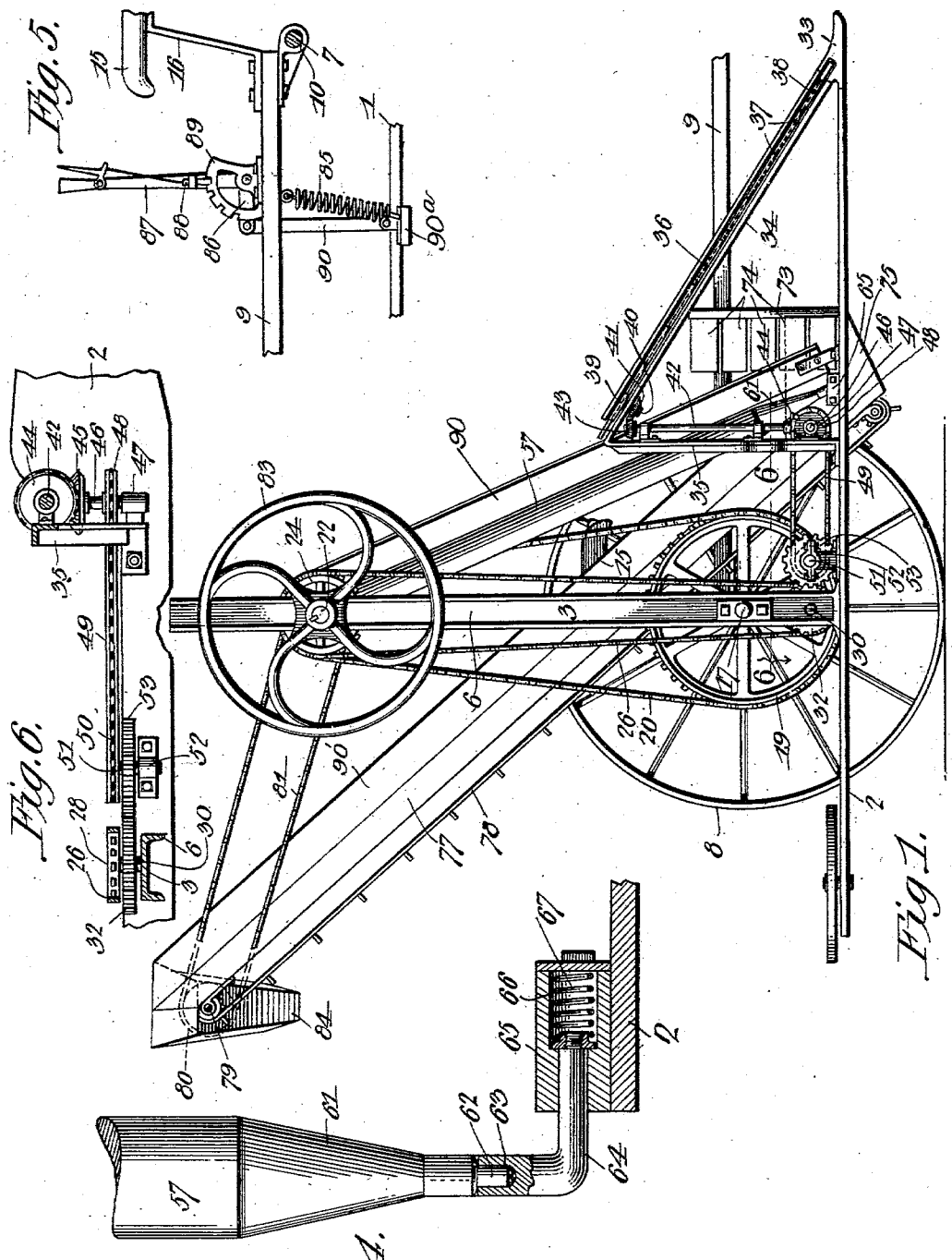


Fig. 1.

Fig. 5.

Fig. 6.

Fig. 4.

Witnesses
E. F. Stewart
Wm. Bagger

Willis E. Pelton, Inventor:
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 2.

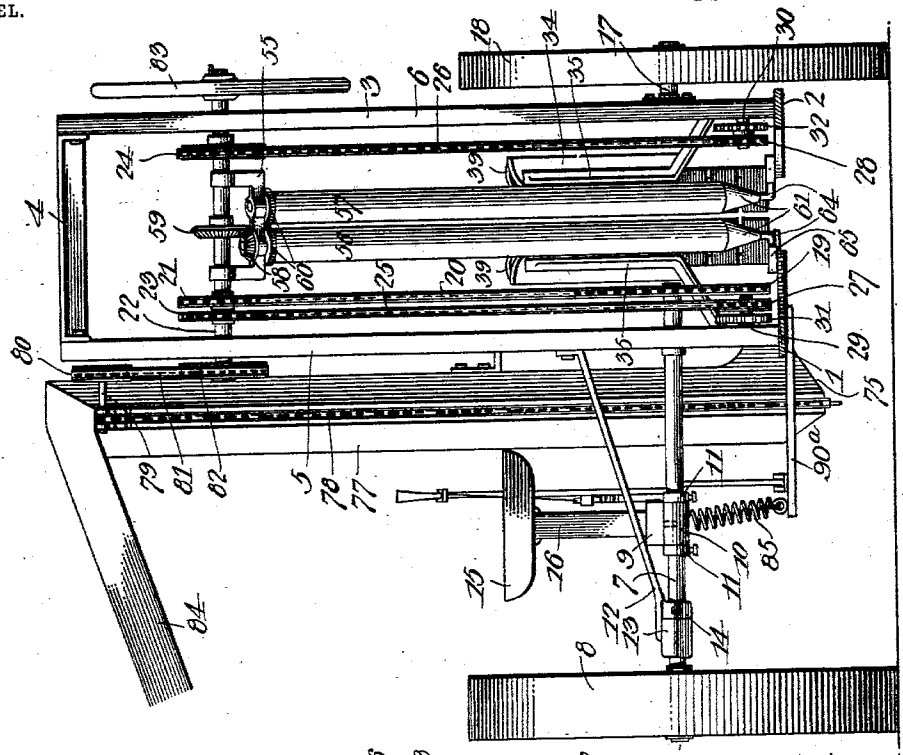
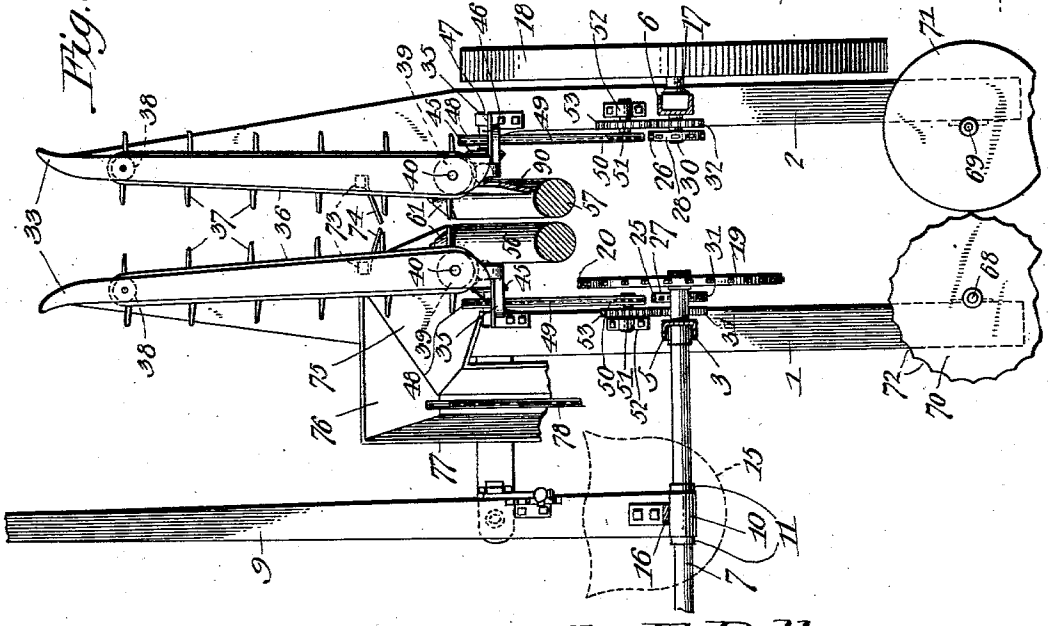


Fig. 3.



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No. 746,738. Patented December 15, 1903.

UNITED STATES PATENT OFFICE.

WILLIS E. PELTON, OF OKLAHOMA, OKLAHOMA TERRITORY, ASSIGNOR OF ONE-HALF TO JOSEPH BARNARD, OF OKLAHOMA, OKLAHOMA TERRITORY.

CORN-HARVESTER.

SPECIFICATION forming part of Letters Patent No. 746,738, dated December 15, 1903.

Application filed March 31, 1903. Serial No. 150,466. (No model.)

To all whom it may concern:

Be it known that I, WILLIS E. PELTON, a citizen of the United States, residing at Oklahoma city, in the county of Oklahoma and Territory of Oklahoma, have invented a new and useful Corn-Harvester, of which the following is a specification.

This invention relates to that class of corn-harvesters by means of which the ears are stripped or snapped from the stalks, which latter are left standing in the field; and it has for its object to provide a machine of this class which shall possess superior advantages in point of simplicity, durability, ease and certainty of operation, and general efficiency.

With these ends in view my invention comprises a wheel-supported frame carrying a pair of snapping-rollers which are operated by power derived from one of the traction-wheels.

The device further comprises an elevating device to receive the ears as they are snapped from the stalks by the rollers and which serves to carry them upward and to deposit them into a suitable receptacle, which may be the box of a wagon driven alongside of the machine.

The invention further consists in an improved frame construction having side members connected by an arch and snapping-rollers journaled in said frame in connection with rotary means associated with the rear ends of the side members of the frame, which while admitting of the passage of stalks will prevent the undue expansion of the front ends of the side members of said frame.

My invention further consists in the improved construction, arrangement, and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a corn-harvester constructed in accordance with the principles of my invention. Fig. 2 is a rear elevation of the same. Fig. 3 is a horizontal sectional view. Fig. 4 is a sectional detail view illustrating one of the bearings for the lower ends of the snapping-rollers. Fig. 5 is a detailed side elevation showing a portion of the side of the machine opposite to that shown in Fig. 1. Fig. 6 is a sectional detail view on the line 6 6 in Fig. 1.

Corresponding parts in the several figures are designated by similar numerals of reference.

The frame of my improved corn-harvester may be described as consisting of side pieces 1 2, connected intermediate of their lengths by means of an upwardly-extending yoke or arch 3. Regarding the detailed construction of this frame I do not in any wise limit myself. Thus the side pieces may be made separate from or integral with the side members of the yoke or arch, and the construction of the latter does not necessarily involve the employment of a separate top piece, such as shown at 4 in Fig. 2 of the drawings. The detailed construction of the frame may be modified to any extent within the scope of my invention.

The side members of the arch or yoke are separately designated 5 and 6, the side member 5 being adjacent to what may be properly termed the "outer" side of the machine. Said side member 5 is provided with a suitable bearing for an axle 7, carrying a bull-wheel 8, which is fixed upon said axle, from which motion is transmitted, as will be hereinafter described, to the operating parts of the machine. The tongue 9 is supported upon the axle, with which it is connected by means of a sleeve 10, in which said axle is revoluble, side motion of said sleeve being prevented by means of set-collars 11 or other suitable means. 12 designates a brace having a sleeve 13, which is journaled upon the axle, inward movement of said sleeve upon the axle being prevented by a set-collar 14. The brace 12 is bolted or otherwise suitably attached to the frame of the machine, as will be readily understood. The driver's seat 15 is supported upon the seat-bar 16, which rises from the rear end of the tongue.

The side member 6 of the arch or yoke 3 has a stub-axle 17, carrying a transporting-wheel 18, which, together with the traction-wheel 8, supports the frame of the machine.

The inner end of the axle 7 carries a sprocket-wheel 19, which is connected by

means of a chain 20 with a sprocket-wheel 21 upon a shaft 22, which is journaled in suitable bearings near the upper end of the yoke 3. This shaft is provided with sprocket-wheels 23 24, which are connected by means of chains 25 26 with sprocket-wheels 27 28, mounted upon stub-axles 29 30, which are suitably journaled in the side pieces 5 and 6 of the arch 3 near the lower end of said side pieces. The stubs 29 and 30 also carry spur-gears 31 32, from which motion is transmitted to the stalk-guiding mechanism of the harvester, as will be hereinafter more fully set forth.

The side pieces 1 and 2 of the frame are extended forwardly and are provided at their front ends with shoes 33, which when the front end of the machine is dipped will prevent said side pieces from digging into the ground. Said side pieces are also provided with upwardly and rearwardly inclined brackets or shelves 34, supported at their rear ends by means of braces 35, and upon these brackets or shelves are mounted endless carriers 36, having laterally-extending fingers 37, that serve to engage the cornstalks and to carry them in a rearward direction toward the snapping-rollers. The endless carriers 36, which are constructed in the usual manner of suitably-joined links, a suitable proportion of which are provided with the laterally-extending fingers 37, are mounted upon suitable supporting-pulleys 38 and 39 at the front and rear ends of the shelves, respectively, the shafts 40 of the pulleys 39 being extended downwardly and provided with bevel-gears 41. The brackets 35, which support the rear ends of the shelves 34, are provided with bearings for vertically-disposed shafts 42, the upper ends of which have bevel-gears 43, meshing with the bevel-gears 41 upon the shafts 40 of the carriers. The lower ends of the shafts 42 are provided with bevel-gears 44, meshing with bevel-gears 45 upon transverse shafts 46, mounted in suitable bearings 47, provided upon the standards or supports 35. Said shafts 46 are also provided with sprocket-wheels 48, connected by chains 49 with sprocket-wheels 50 upon shafts 51, journaled in suitable bearings 52 upon the side pieces of the frame. The shafts 51 also carry pinions or spur-gears 53, meshing with the spur-gears 31 and 32 at the opposite sides of the machine and which have already been fully described, the intermeshing spur-gears 31 53 and 32 53 being provided for the purpose of reversing the motion, so as to cause the inclined carriers to operate in the proper direction.

I would have it understood that any other suitable means within the scope of my invention may be employed for the purpose of transmitting motion from the stub-axles 29 and 30 to the endless carriers 36.

The shaft 22, near the upper end of the frame, is provided with a depending yoke 55, having suitable bearings in which the upper ends of the shafts of the snapping-rollers 56 and 57 are journaled. The shaft of the outer snapping-roller 56 has a pinion 58, meshing with a bevel-gear 59 upon the shaft 22, and both of the snapping-rollers are provided at their upper ends with intermeshing spur-gears 60, causing them to be operated in opposite directions. The snapping-rollers are placed in a suitably-inclined position and their lower ends are made conical or pointed, as will be seen at 61, in order to facilitate the entrance between them of the cornstalks the ears of which are to be gathered. The lower ends of the snapping-rollers or of the shafts 62 of said rollers are journaled in bearings 63, consisting of suitable recesses in elbow-pieces 64, the horizontal arms of which are supported slidably in boxes 65, mounted upon the side pieces of the frame of the machine. Said boxes have recesses 66, containing springs 67, which exert an outward pressure upon the elbow-pieces, thus forcing the lower ends of the snapping-rollers in the direction of each other, but permitting them to expand sufficiently to admit of the passage between them of the stalks from which the ears are to be snapped. Other suitable means within the scope of my invention may be employed for so mounting the lower ends of the snapping-rollers as to permit them to expand against spring-pressure.

The frame of my improved machine, owing to its peculiar construction, is possessed of a degree of elasticity which unless counteracted would be liable to permit the front ends of the side pieces to expand, thus unduly separating the snapping-rollers to an extent which might result in the passage between them of the ears which it is their function to remove from the stalks. To obviate this contingency, I provide each of the side pieces 1 and 2, near the rear ends of said side pieces, with vertical shafts 68 and 69, upon which are mounted a pair of disks or rollers 70 and 71, bearing or contacting against each other at their peripheries, so as to prevent the expansion of the front part of the frame. One of these disks, 70, has its rim or periphery provided with corrugations 72, the edges of which will contact with the rim of the disk 71, as shown, while said corrugations will admit of the passage between said disks of the stalks which have been deprived of their ears.

Supported by the sides of the frame a short distance in advance of the snapping-rollers are a pair of uprights 73, each carrying a plurality of spring-blades 74, which admit of the passage between them of the cornstalks and which serve when the ears are snapped from the stalks by the action of the snapping-rollers to cause to rebound such ears as are thrown in a forward direction by the action of the snapping-rollers and which without the presence of these rebounding-springs would be apt to land upon the ground. For the reception of the ears I provide at the lower end of the outer snapping-roller an inclined surface 75, consti-

tuting a part of the chute or hopper 76, whereby the ears are conveyed to the lower end of an elevator-trough 77, which is suitably supported by the frame of the machine and which contains a suitably-constructed endless carrier 78, mounted upon pulleys at the upper and lower ends of the elevator-trough. The shaft 79, carrying the pulley at the upper end of the trough, also carries a sprocket-wheel 80, which is connected by a chain 81 with a sprocket-wheel 82 upon the outer end of the shaft 22, from which the said elevator is driven. The opposite end of said shaft carries a fly-wheel 83, which serves to overcome the momentary check caused by the ears coming in contact with the snapping-rollers. The upper end of the discharge-trough is provided with a laterally-extending discharge-chute 84, which may be of any desired length and which serves to convey the ears of corn to the place of deposit.

A spring 85 connects the tongue 9 of the machine with a bracket 90^a, extending from the adjacent side frame-piece 1, thus keeping the points of the side pieces of the frame normally supported above the ground. A bell-crank lever 86, which is pivotally connected with the tongue, has an upwardly-extending operating-arm 87, provided with a spring-actuated dog or pawl 88, engaging a segment-rack 89, whereby the said lever may be retained in any position to which it may be adjusted. The horizontal arm of the bell-crank lever 86 is connected by means of a link 90 with the side bar 1, with which the spring 85 is also connected. The force of said lever may thus be exerted to depress the front ends or points of the side bars which constitute the gathering-arms against the tension of the said spring 85, as will be readily understood, thus enabling the side arms or gathering-arms to pick up down corn and cause it to be conveyed to the snapping-rollers.

A deflecting-board 90, suitably supported upon the frame of the machine, is disposed adjacent to and slightly above the inner snapping-roller in order to prevent the ears of corn from dropping in an inward direction from said roller when it would naturally be deposited upon the ground and lost. By this deflecting-board the corn when snapped from the stalks is compelled to pass in an outward direction to the inclined side of the hopper provided for its reception and which guides it to the elevator.

From the foregoing description, taken in connection with the drawings hereto annexed, the operation and advantages of my invention will be readily understood. The construction is simple and inexpensive, and by means of my improved machine the corn crop may be harvested much more expeditiously and economically than by hand. The importance of harvesting the corn crop quickly at the time when it is in the proper condition is generally understood, and by my invention this result may be attained in a certain and satisfactory manner.

I desire it to be understood that while I have herein shown and described a simple and preferred form of my invention I do not limit myself to the structural details herein set forth, inasmuch as many changes might be made with regard to the form, proportion, and relative arrangement of the parts. I reserve the right to any changes, alterations, and modifications within the scope of my invention and which may be resorted to without departing from the spirit or sacrificing the utility of the same.

Having thus described my invention, I claim—

1. In a corn-harvester, a frame comprising side pieces extended forwardly to form gathering-arms and an arch connecting said side pieces, bearings mounted upon the latter, snapping-rollers journaled at their lower ends in said bearings, and a pivotally-supported yoke near the upper end of the arch having bearings for the upper ends of said snapping-rollers.

2. In a corn-harvester, a frame comprising side pieces extending forwardly to form gathering-arms and an arch connecting said side pieces, boxes supported upon said side pieces, spring-pressed elbows mounted slidingly in said boxes and having bearings in their outer ends, a shaft journaled in the side members of the arch, a yoke mounted upon said shaft and having bearings formed therein and snapping-rollers provided with intermeshing spur-gears, the upper ends of said snapping-rollers being journaled in the said yoke and their lower ends in the slidable mounted elbows.

3. In a corn-harvester, a frame comprising side pieces extending forwardly to form gathering-arms and an arch connecting said side pieces, spring-pressed bearings supported upon said side pieces, a shaft journaled near the upper end of the arch, a yoke mounted on said shaft and having bearings formed therein, snapping-rollers journaled in said bearings and in the spring-pressed bearings upon the side pieces, intermeshing spur-gears upon said snapping-rollers, and means for transmitting motion to the latter from the source of power.

4. In a corn-harvester, the combination of a frame, snapping-rollers journaled therein, operating means for said snapping-rollers, and spaced springs disposed vertically in front of said snapping-rollers.

5. In a corn-harvester, the combination of a frame, snapping-rollers journaled therein, operating means for said snapping-rollers, uprights rising from the frame-beams in front of the latter, and vertically-disposed spring-blades secured to said uprights and extending in the direction of each other.

6. In a corn-harvester, the combination of a frame, snapping-rollers journaled therein, operating means for said snapping-rollers,

and rebounding springs disposed vertically in front of the latter.

7. In a corn-harvester, the combination of a frame, snapping-rollers journaled therein, operating means for said snapping-rollers, a hopper disposed in proximity to the lower end of the outer snapping-roller, and spaced, rearwardly-converging rebounding springs disposed vertically in front of the snapping-rollers.

8. In a corn-harvester, a frame comprising side pieces extending forwardly to form gathering-arms and an arch connecting said side pieces, a stub-axle upon one of the side members of the arch, a supporting-wheel upon said stub, an axle journaled in the opposite side member, a traction-wheel mounted on said axle, a sleeve inclosing said axle, a brace connecting said sleeve with the frame, snapping-rollers journaled in the frame, inclined conveyers upon the gathering-arms, and means for transmitting motion to the said snapping-rollers and conveyers from the axle carrying the traction-wheel.

9. In a corn-harvester, the combination with a frame comprising side pieces and an arch connecting said side pieces, of an axle journaled in one of the side members of the arch, a stub-axle on the opposite side member of said arch, supporting-wheels upon said axles, a sleeve journaled upon the revoluble axle, a tongue supported upon said sleeve, and connecting means between the tongue and the frame of the machine whereby the relative positions of said tongue and frame may be adjusted.

10. In a corn-harvester, the combination with a frame comprising side pieces and an arch connecting said side pieces, of an axle journaled in one of the side members of the arch, a stub-axle upon the opposite side member of said arch, supporting-wheels upon said axles, a sleeve journaled upon the revoluble axle, a tongue supported upon said sleeve, a spring connecting said tongue with the adjacent side member of the frame, a bell-crank lever having a long and a short arm fulcrumed upon the tongue and having a spring-pressed dog, a rack-segment upon the tongue engaging said dog, and a link connecting the short arm of the bell-crank lever with the adjacent side member of the frame.

11. In a corn-harvester, a frame comprising side members and an arch connecting said side members, snapping-rollers, bearings for the lower ends of said snapping-rollers upon the side members of the frame in front of the arch, bearings for the upper ends of the snapping-rollers supported by the arch, and peripherally-contacting disks mounted on vertical axes upon the side members of the frame in rear of the arch.

12. In a corn-harvester, a frame comprising side members and an arch connecting said side members, snapping-rollers, bearings for the lower ends of said snapping-rollers upon the side members of the frame in front of the arch, bearings for the upper ends of the snapping-rollers supported by the arch, and peripherally-contacting disks mounted on vertical axes upon the side members of the frame in rear of said arch, one of said disks having circumferential corrugations.

13. In a corn-harvester, a frame comprising side members and an arch connecting said side members, and snapping-rollers journaled in said frame, in combination with rotary contacting means for preventing the undue expansion of the front ends of the side members of said frame.

14. In a corn-harvester, a frame comprising side members and an arch connecting said side members, in combination with snapping-rollers journaled in said frame, and rotary contacting means connected with the rear ends of the side members of said frame for preventing the undue expansion of the front ends of said side members.

15. In a corn-harvester, a frame having side members and an arch connecting said side members, in combination with snapping-rollers journaled in said frame, and rotary means associated with the rear ends of the side members of said frame admitting of the passage of stalks and preventing the undue expansion of the front ends of said side members.

16. In a corn-harvester, a frame having connected side pieces constituting gathering-arms and means for snapping the ears of corn from stalks passing between said side pieces, in combination with rotary means supported upon said side pieces for preventing the undue expansion of the same.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIS E. PELTON.

Witnesses:
WALTER H. WILLIAMS,
JOSEPH BARNARD.