

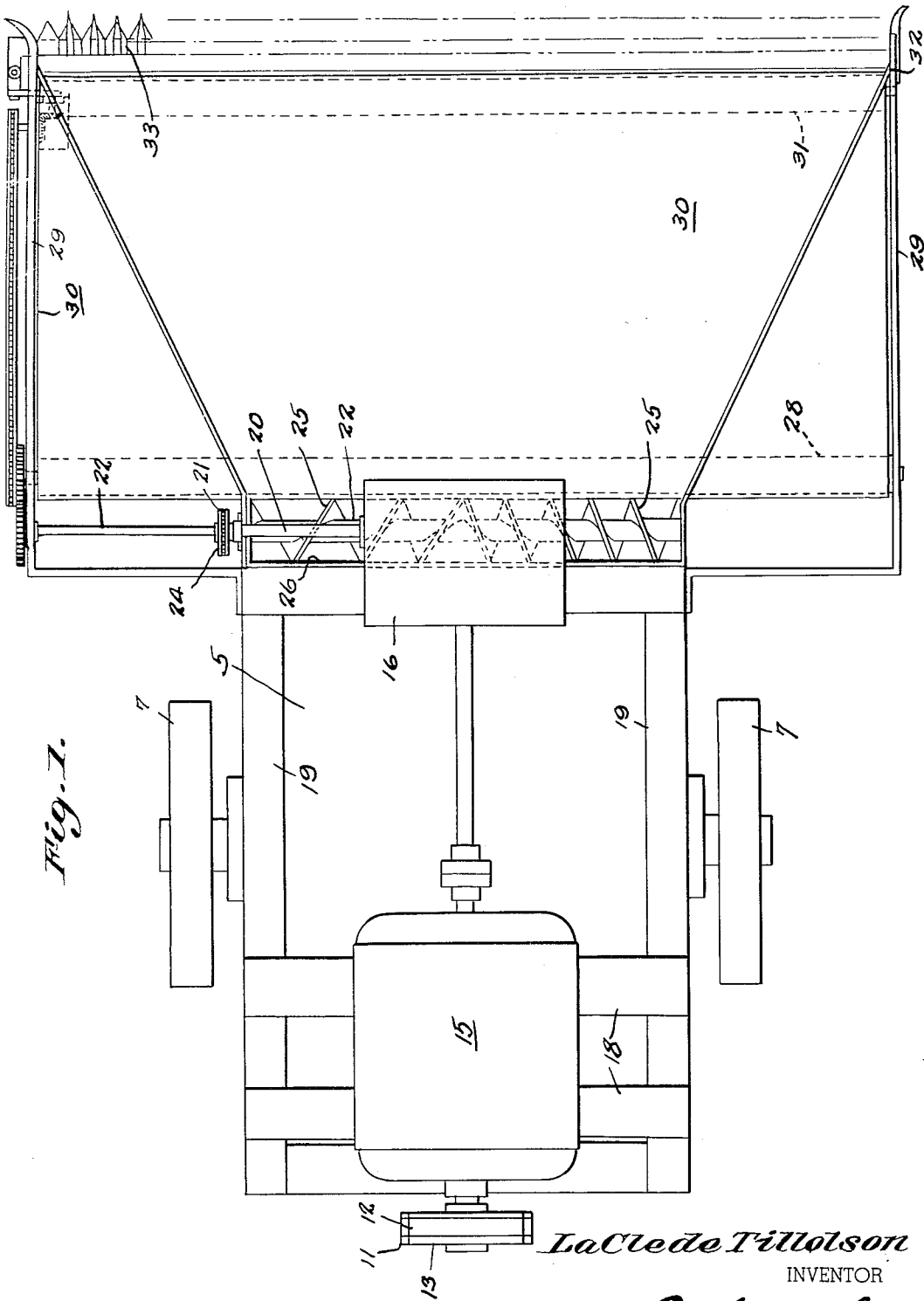
May 15, 1956

LA CLEDE TILLOTSON
GRAIN THRESHER

2,745,409

Filed Aug. 10, 1953

4 Sheets-Sheet 1



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May 15, 1956

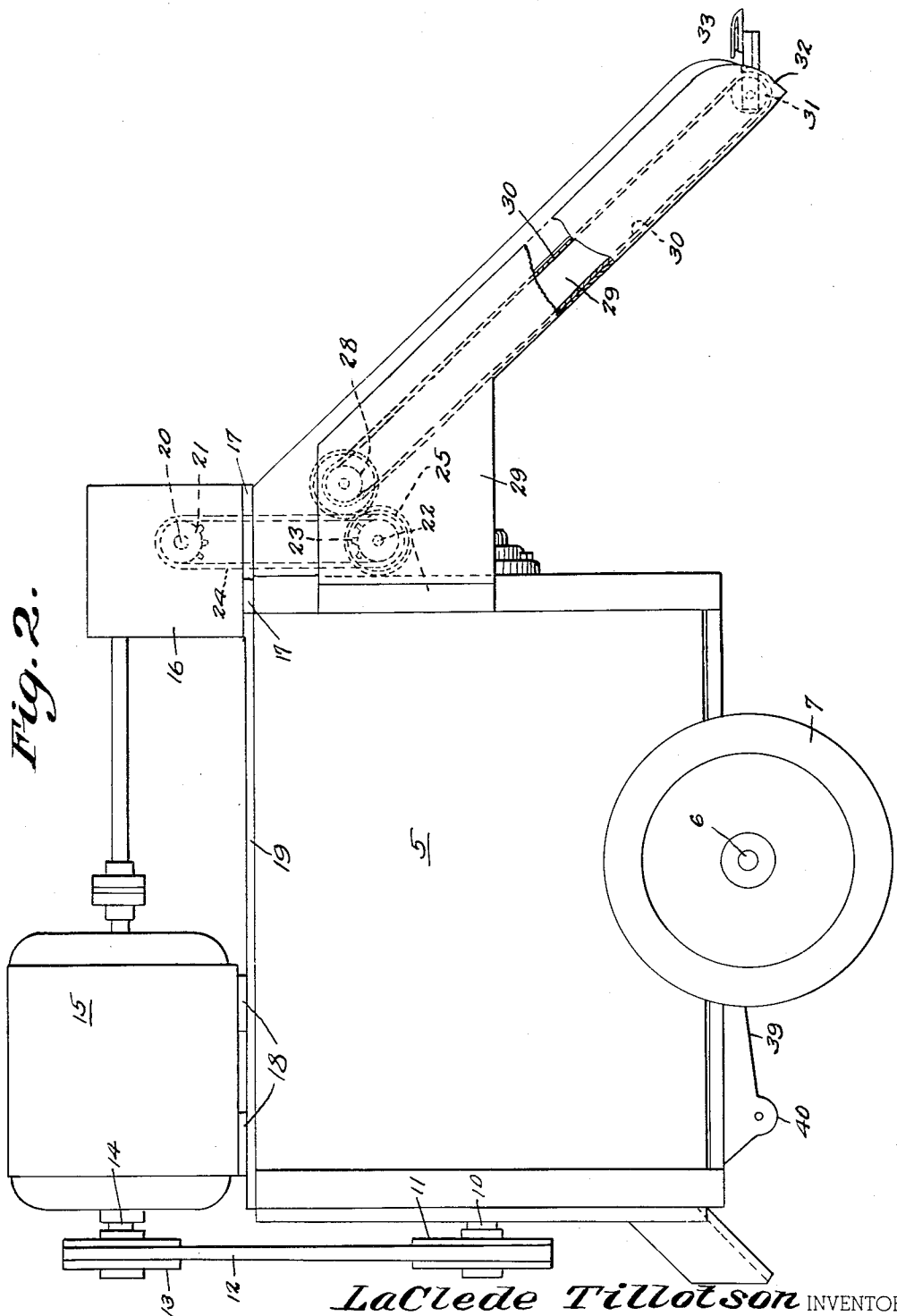
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Fig. 2.



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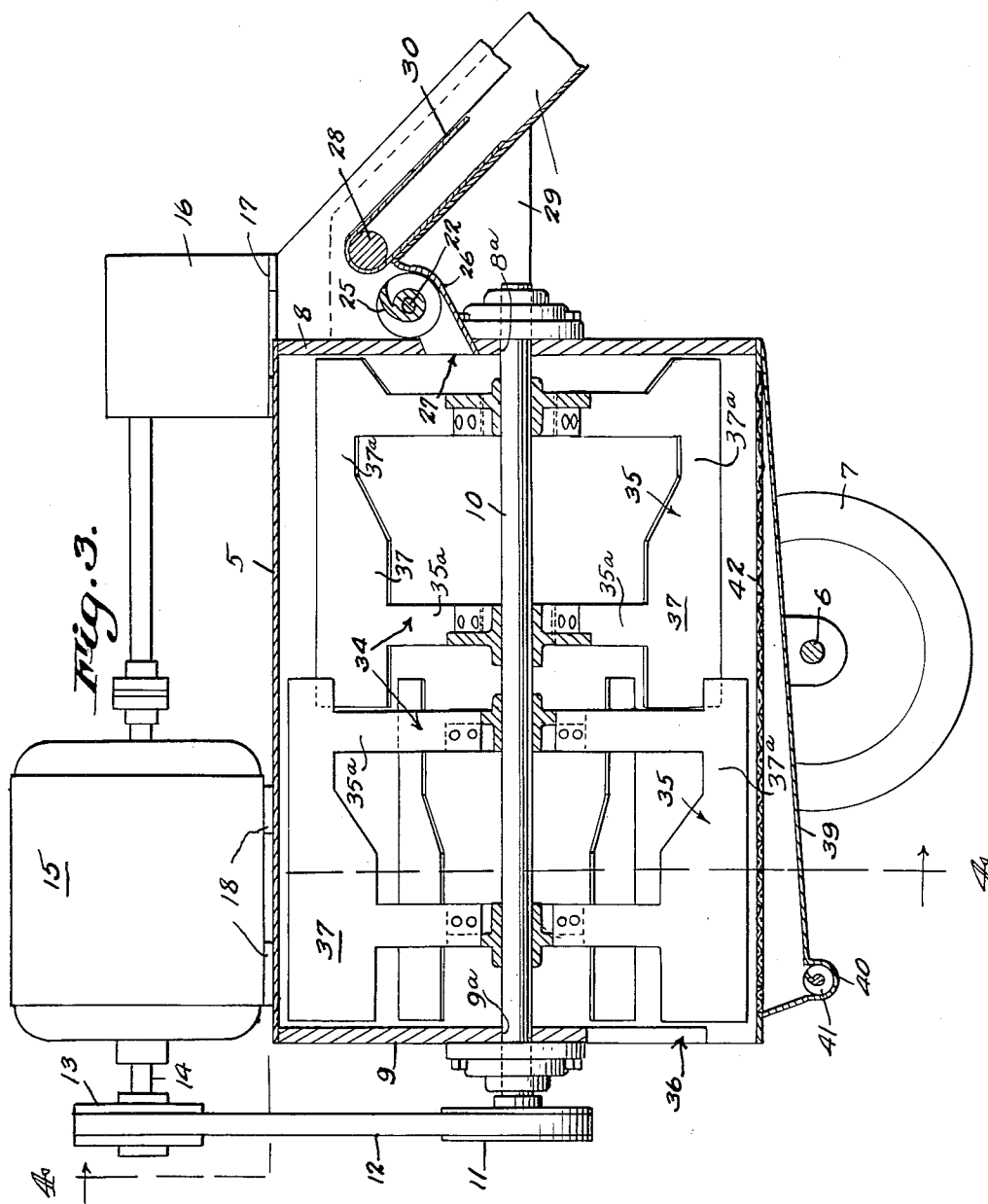
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GRAIN THRESHER

Filed Aug. 10, 1953

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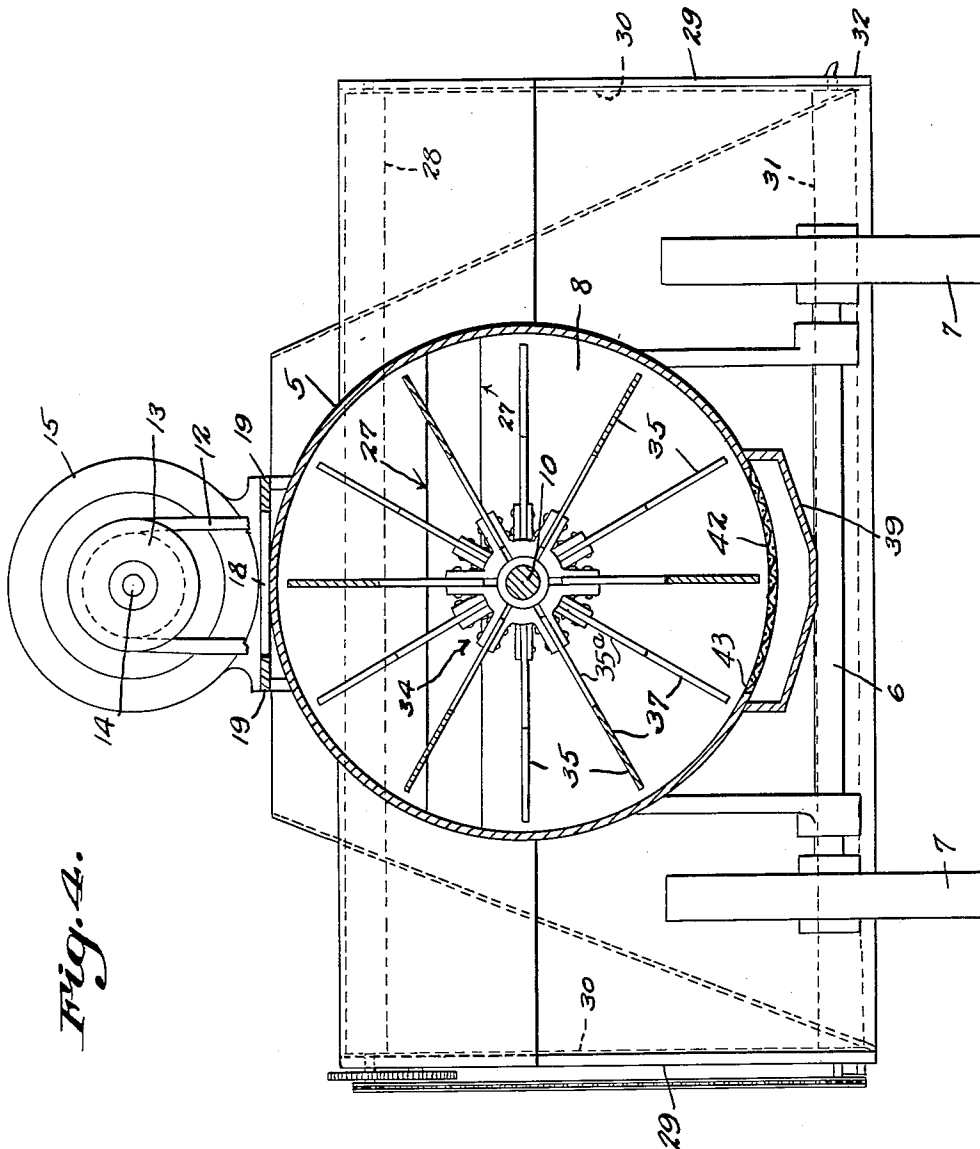


Fig. 4.

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2,745,409

GRAIN THRESHER

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Application August 10, 1953, Serial No. 373,415

1 Claim. (Cl. 130—27)

This invention relates to a grain thresher, the primary object of the invention being to provide a thresher of this character wherein the threshing operation will be carried out by subjecting the grain to the action of suction created by an air blast directed through a thresher housing.

An important object of the invention is to provide a thresher which will accomplish the thorough threshing of the grain by the application of an air blast and suction, eliminating the use of toothed bars, straw racks, riddles or sieves, which tend to damage the grain.

Still another object of the invention is to provide a wheel-supported thresher having a reciprocating cutter bar mounted on the forward end thereof for cutting the grain, means being also provided for delivering the cut grain rearwardly, to the body of the thresher.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims, it being understood that changes may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

Referring to the drawings:

Figure 1 is a plan view of a thresher constructed in accordance with the invention.

Fig. 2 is a side elevational view thereof partly broken away and in section.

Fig. 3 is a vertical sectional view through the body of the device.

Fig. 4 is a sectional view taken on line 4—4 of Fig. 3.

Referring to the drawings in detail, the thresher comprises the body portion indicated generally by the reference character 5 which body portion is in the form of a cylinder mounted on the axle 6 on which the wheels 7 operate.

The reference character 8 indicates a front end wall of the body portion while the reference character 9 indicates a rear end wall, which walls 8 and 9 substantially close the ends of the body portion.

Bearing openings 8^a and 9^a are formed on the front and rear walls 8 and 9 respectively of the thresher, in which the shaft 10 operates, one end of the shaft 10 extending beyond the rear wall 9 of the body portion where it supports a pulley 11 over which a belt 12 operates, the belt 12 also operating over a pulley 13 secured on one end of the motor shaft 14 which forms a part of the motor 15 that is mounted directly on the upper surface of the body 5, as clearly shown by Fig. 3 of the drawings.

A gear box indicated by the reference character 16 is also mounted on the body portion and is secured to the cross bars 17 forming a part of the frame which supports the body portion 5. The motor 15 is mounted on the body portion and rests directly on the cross beams 18 that connect the side beams 19. While the gearing in the gear box 16 is of the conventional type, it also includes a horizontal shaft 20 on which a sprocket 21

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is secured. Mounted within the forward end of the thresher, is a horizontal shaft 22 on which a sprocket 23 is secured, the rotary motion of the sprocket 21 being transmitted to the sprocket 23 and shaft 22, through the medium of the chain 24.

The horizontal shaft 22 provides the support for the feed screw 25 which operates in the trough 26 which communicates with the interior of the body portion 5, through an opening 27 formed in the front wall 8 of the body portion.

Supported adjacent to the feed screw 25 and disposed in parallel spaced relation therewith, is a roller 28 that has its ends mounted in suitable bearings formed in the forwardly extended ends 29 of the body portion, over which roller the conveyor 30 operates, the conveyor 30 being in the form of a wide belt which also operates over a roller 31 disposed at the lower forward end of the frame 32 that supports the reciprocating cutter bar 33. Thus it will be seen that due to this construction, grain which is cut by the reciprocating cutter bar 33 will be carried upwardly and deposited in the trough 26, where it will be carried into the body portion 5, by the feed screw 25.

Operating within the body portion 5 which provides a housing for the threshing elements, are the rotary threshers 34 each of which embodies a plurality of wide horizontally disposed fan blades 35, the ends of the blades of one rotary thresher being disposed within the confines of the adjacent ends of the adjacent rotary thresher, as better shown by Fig. 3 of the drawings. These rotary threshers, since they are mounted on the shaft 10 to rotate therewith, will rotate rapidly, blasting the straw and chaff from the body portion, through the discharge opening 36. As shown, the blades 35 are formed of radial arms 35^a with substantially wide trailing portions 37 and narrow forward end leading portions 37^a which structure tends to thoroughly beat the grain from the straw and chaff as it is moved through the thresher.

The bottom of the body portion is inclined downwardly and indicated by the reference character 39, the rear end of the bottom being formed with a trough 40 in which the feed screw 41 operates, the feed screw 41 moving the grain to a place of deposit where it may be packaged for shipment or storage.

The grain which has been threshed, on passing to the trough or bottom 39, passes through a longitudinal delivery opening 43 covered by the screen 42 removing all chaff and straw therefrom so that the grain is discharged from the trough 40 in a clean condition free of straw and chaff.

It might be further stated that the construction and operation of the rotary threshers is such that they rotate rapidly to the end that the straw is broken up and the straw and chaff readily separated from the grain, and the straw and chaff being lighter than the grain, will be caught in the blast created by the rotary threshers and discharged through the opening 36 leaving the heavier particles or grain on the screen 42, to pass through the mesh of the screen and be delivered into the bottom 39 and trough 40 as described.

From the foregoing it will be seen that due to the construction of the rotary threshers, the threshing operation will be accomplished by sucking the grain into the body portion and blasting the straw and chaff from which the grain has been separated, through the discharge opening in the rear end of the body portion, eliminating the necessity of using the conventional toothed bars, straw racks, riddles or sieves which tend to damage and deteriorate the grain being threshed. The air pressure generated by rotation of the blades 35 will tend to move radially outward and force the grain through the screen 42. As the air pressure builds up against the screen 42, the

pressure is released by flow of the air with the lighter straw and chaff longitudinally toward the discharge opening 36.

From the foregoing it is believed that the construction and operation of applicant's thresher will be apparent, and that further description of the operation of the thresher is unnecessary.

Having thus described the invention, what is claimed is:

A grain thresher comprising a cylindrical housing, end walls secured to said housing, one of said end walls having an intake opening and the other of said end walls having a lower straw and chaff discharge opening, a shaft rotatably carried by said end walls, a plurality of blades fixed to said shaft, each blade being formed of an elongated body extending longitudinally of said housing having a relatively wide trailing portion and a narrow leading portion, a pair of radial arms extending inwardly from said body and fixed relative to said shaft, a down-

wardly and forwardly inclined grain delivery trough carried by the lower portion of said housing, said housing having a longitudinal grain delivery opening communicating with said trough, a screen covering said longitudinal opening, means rotating said shaft, and means delivering unthreshed grain to said housing through said intake opening.

References Cited in the file of this patent

UNITED STATES PATENTS

500,299	Scott et al. _____	June 27, 1893
1,174,398	Davis _____	Mar. 7, 1916
1,534,426	Strong et al. _____	Apr. 21, 1925
1,653,153	Davis _____	Dec. 20, 1927
1,772,971	Vaudreuil _____	Aug. 12, 1930
1,932,714	Thoen _____	Oct. 31, 1933
2,037,300	Arbuckle _____	Apr. 14, 1936
2,397,375	Scranton _____	Mar. 26, 1946