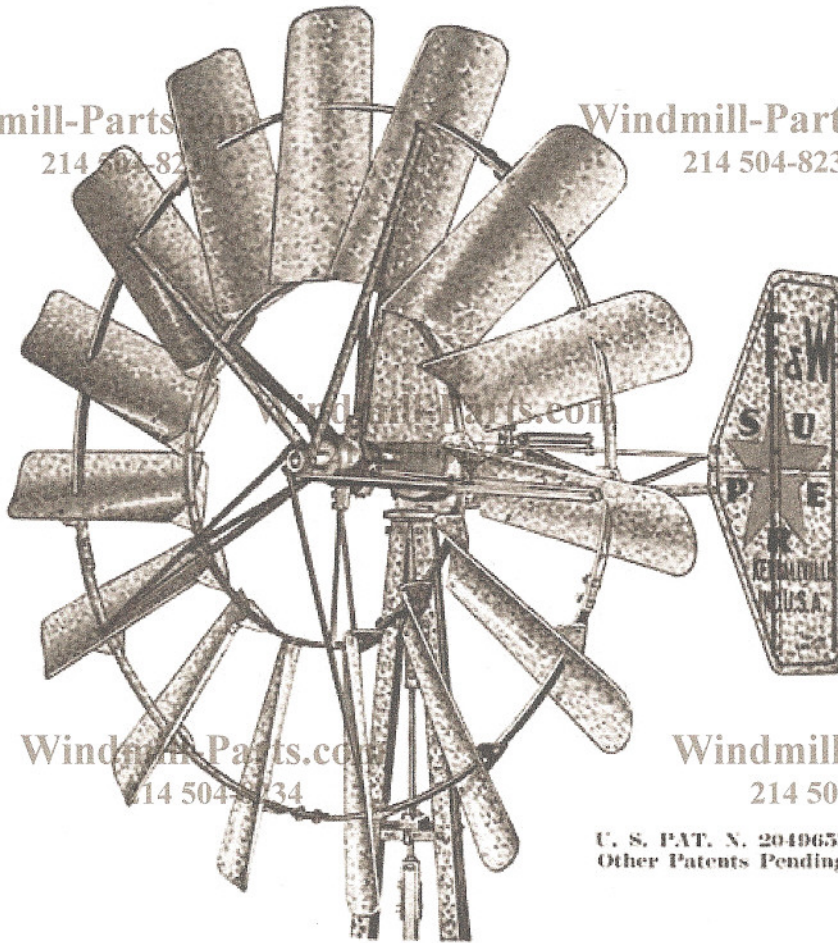


Windmill-Parts.com
214 504-8234

Windmill-Parts.com
214 504-8234



Windmill-Parts.com
214 504-8234

Windmill-Parts.com
214 504-8234

U. S. PAT. N. 2049655
Other Patents Pending

PRICES

ZEPHYR STAR GALVANIZED STEEL WINDMILL

Reg. U.S. Pat. Off.

214 504-8234

BACK-GEARED, COMPLETE WITH BALL-BEARING TURNTABLE, TOWER CAP, SPIDER AND REEFING GEAR

Diameter of Wheel	Length Stroke	Gear Ratio	Number Arms	Number Wheel Fans	Weight	Price Plain Bearings	Price Tapered Roller Bearings
7'	5, 6	3 1/2 to 1	4	12	285	\$ 42.50	\$ 46.00
8'	6, 8	3 1/2 to 1	5	15	370	48.00	53.00
10'	8, 10	3 to 1	6	18	515	72.50	77.00
12'	8, 10, 12	2 5/8 to 1	8	24	900	134.50	140.00

Windmill-Parts.com
214 504-8234

Windmill-Parts.com
214 504-8234

PUMP POLE, SPLICES AND PULL-OUT WIRE

For Tower, Height	Feet	20	25	30	35	40	50	60
For 5, 6, 7, 8 and 10-ft. Windmill	Price	\$.60	\$.70	\$.90	\$1.15	\$1.35	\$1.75	\$2.35
For 12-ft. Windmill	Price	.85	1.15	1.50	1.85	2.20	2.90	3.55
For 15-ft. Windmill	Price	2.15	2.90	3.65	4.70	5.15	6.55	7.85

For repairs see pages 108-109.

IMPORTANT

In ordering or making inquiry about a Windmill outfit the following should be carefully observed:
The size and depth of well, and least depth of water in it, should always be clearly stated.
Quantity of water desired per hour.
Height water is to be elevated, and lateral distance to be conveyed.
The kind and size of windmill wanted; the height

and kind of tower upon which the mill is to be erected.
Care should be taken to have mill placed at least fifteen feet above all buildings, trees or other obstructions in proximity to site of mill.
A rough sketch of the location where mill is to be erected and the conditions, sent us with your inquiry or order, will be of great service in fulfilling your requirements.

Windmill-Parts.com
214 504-8234

THE NEW ZEPHYR STAR WINDMILL

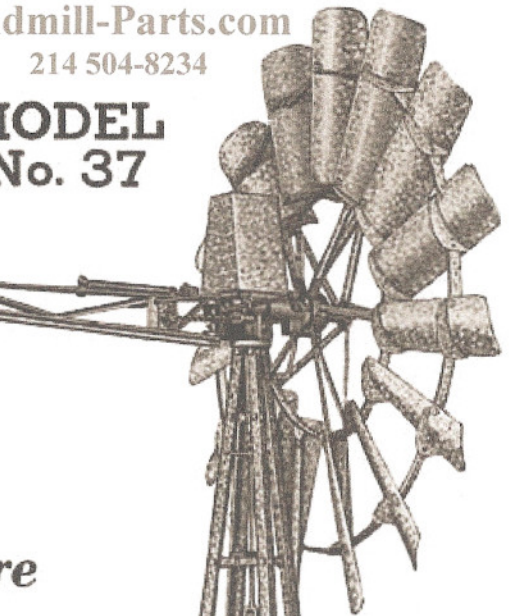
Windmill-Parts.com

FLINT & Walling offers this new mill as its greatest contribution to the windmill field in its more than 65 years of experience. It retains every proved feature which has made previous Star windmills so popular plus many new improvements, chief of which is a revolutionary new wind wheel design. This is an exclusive Flint & Walling feature, protected by U. S. Patent No. 2049655.

Windmill-Parts.com

214 504-8234

MODEL No. 37

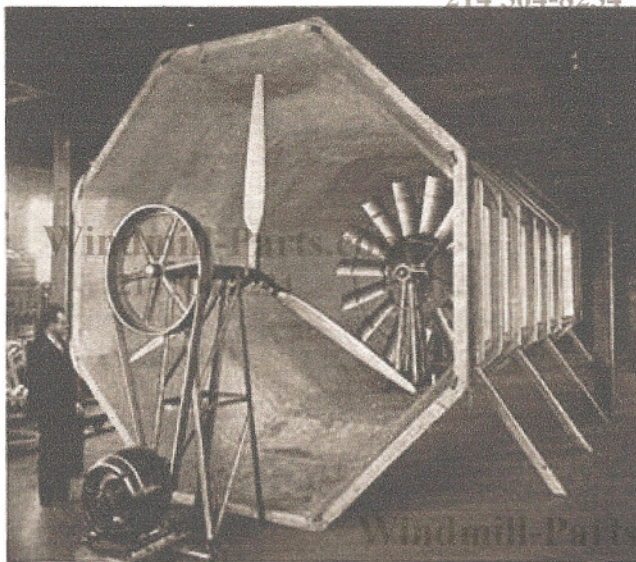


Patented Wheel Pumps 30% More Water in the Same Wind

This new wheel makes use of aero-dynamic principles discovered in recent years in the development of airplanes, stream-lined automobiles, busses and trains. Our engineers applied these principles to the windmill field. We built a special wind tunnel in our laboratories and carried on extensive experiments for many months. The result is this radically different windmill which under repeated tests developed 31% more power than old style wheels and has proved its ability to pump 30% more water in the same wind.

Windmill-Parts.com

214 504-8234



Windmill-Parts.com

214 504-8234

Windmill-Parts.com

214 504-8234

Wind Tunnel in Flint and Walling Laboratories



ZEPHYR STAR WINDMILL MODEL 37

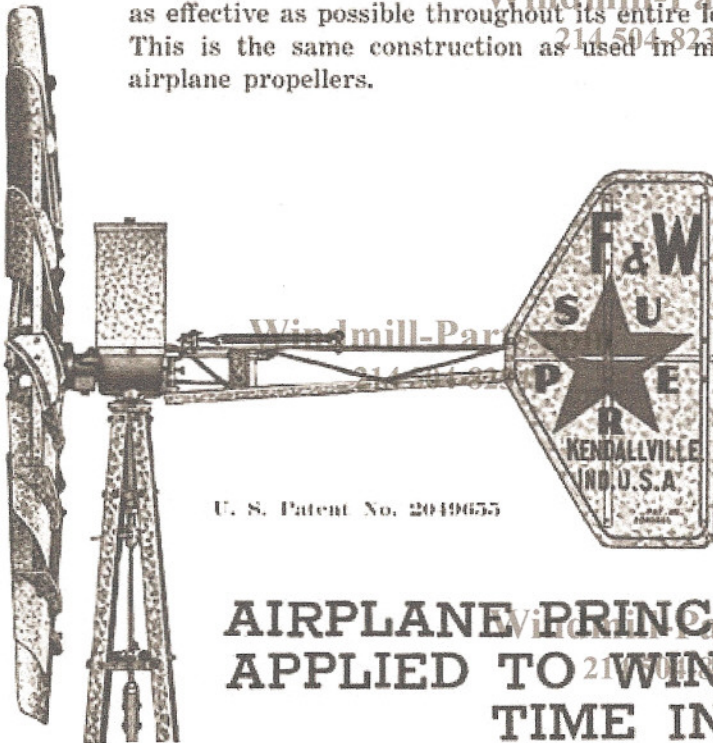
Windmill-Parts.com

Windmill-Parts.com

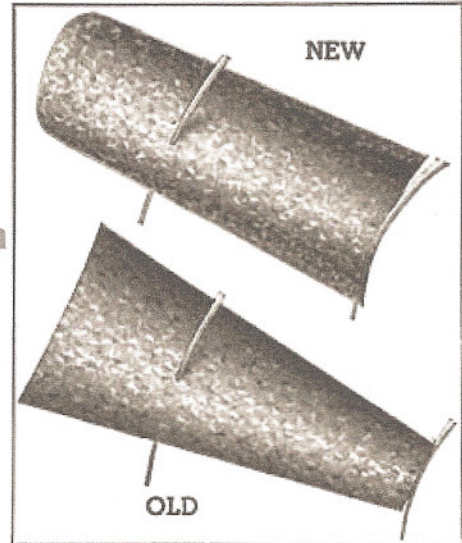
214 504-8234

214 504-8234

A GLANCE at the illustration on this page will show you that the blades or fans which make up this new wheel are entirely different in type from the old-style, rosette-type design. These old fans were widest at the outer edge and tapered in radially, sharply to the center. The fans in the new mill — on the contrary — are widest toward the center and curved and pitched to make each blade as effective as possible throughout its entire length. This is the same construction as used in modern airplane propellers.



U. S. Patent No. 2049655



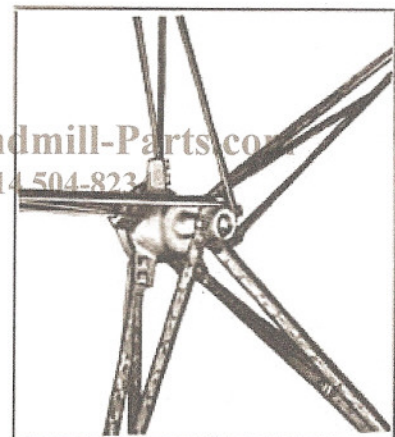
Notice This Departure In Blade Taper Design
 Windmill-Parts.com
 214 504-8234

AIRPLANE PRINCIPLE OF DESIGNING APPLIED TO WINDMILLS FOR FIRST TIME IN HISTORY

In addition to the complete re-designing of the wind wheel fans the new Zephyr Star has a new type stream-lined arms. On old-style mills the wheel arms were placed between the fans and made extra resistance for the fans to pull against. Now they blend into the fans and are stream-lined so that resistance is cut to the minimum.

This new wheel has each fan of the wheel fastened to the wheel rims by full size bracket on each rim for strength and to maintain proper position. The wheel arms now being placed on the fans leaves only two fans between arms instead of three as in all other windmills.

This new Zephyr Star mill also has a stream-lined rudder which has its control area located on end of rudder stem where it has leverage to easily maintain the wheel in working position to the wind currents. The rudder stem is electric welded into one piece and is rigid.



Streamlined Arms Cut Down Wind Resistance



NEW SUPER STAR WINDMILL BUILT TO HIGHEST FLINT & WALLING STANDARDS

214 504-8234

214 504-8234

WE have retained every superior feature for which former Star windmills were famous, refining and improving wherever possible to add greater strength, longer life and care-free, trouble-proof service.

DIRECT CENTER LIFT, with load carried evenly on two pinions, gears and pitman eliminates all side strain and reduces friction which adds to efficiency.

GEARS AND PINIONS are cast of semi-steel and dip in oil. Pitmans are welded of cold rolled steel for perfect bearing-surfaces at bottom end, and at top have short length of steel tubing to fit crosshead pin.

TIMKEN TAPERED ROLLER BEARINGS on both main shaft and crank shaft, carry the load and insure a long, satisfactory period of service.

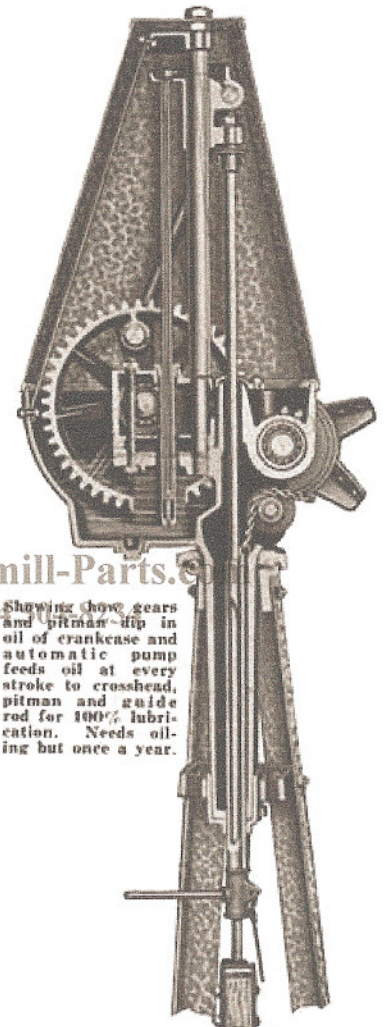
COMPLETE AND CONTINUOUS LUBRICATION by oil in crank case in which moving parts operate, with automatic pump elevating oil at every stroke to crosshead, pitmans and guide rod.

EFFECTIVE BRAKE with steel band on turned cast drum. Brake is so designed that it applies only when reefed by hand, thus avoiding sudden shock and jar which would be caused by brake band being applied when wheel is folded by high winds.

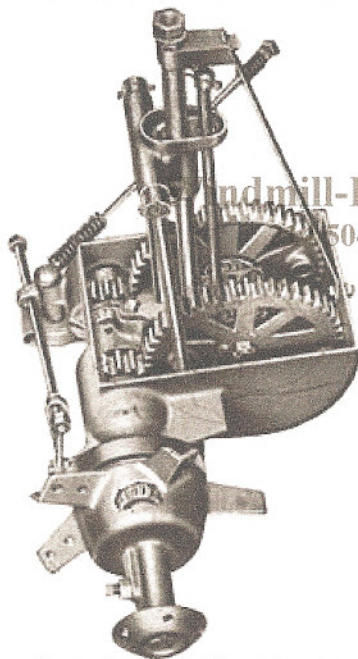
NEW RUDDER designed with large control area, properly located, which combined with ball bearing turntable with full complement of balls, maintains the mill in working position.

TRUSS-TYPE RUDDER STEM. Sturdier! Prevents sagging or crooked rudder. Rudder stem hinge-pin turns in self oiling bronze bushings.

Every **SUPER STAR** mill is galvanized AFTER completion by our own hot dip process, an effectual prevention of rust or corrosion.



Showing how gears and pitman dip in oil of crankcase and automatic pump feeds oil at every stroke to crosshead, pitman and guide rod for 100% lubrication. Needs oiling but once a year.

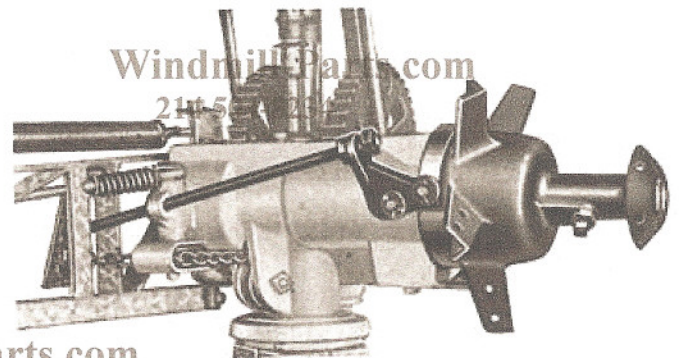


Above—Open view of machine parts showing sturdy construction and location of Timken bearings.

WARRANTY

WE ABSOLUTELY and fully guarantee each and every Model 37 Super Star Windmill against all defects in material and workmanship, if properly erected and oiled with cold test oil, and to run for one year, without further oiling. We will furnish, free of charge at our factory, any part or parts found defective in either materials or workmanship within one year from the time of erection, destruction by excessive windstorm or tornado being excepted.

214 504-8234



Above—Showing the automatic brake latch which applies the brake only when the mill is reefed by hand and does not apply when blown out by wind, avoiding sudden and severe shocks.