



Windmill-Parts.com  
CO. 214 504-8234

Windmill-Parts.com  
214 504-8234

# WINDMILLS

Windmill-Parts.com  
214 504-8234

Windmill-Parts.com  
214 504-8234

Windmill-Parts.com  
214 504-8234



Windmill-Parts.com  
214 504-8234

Windmill-Parts.com  
214 504-8234

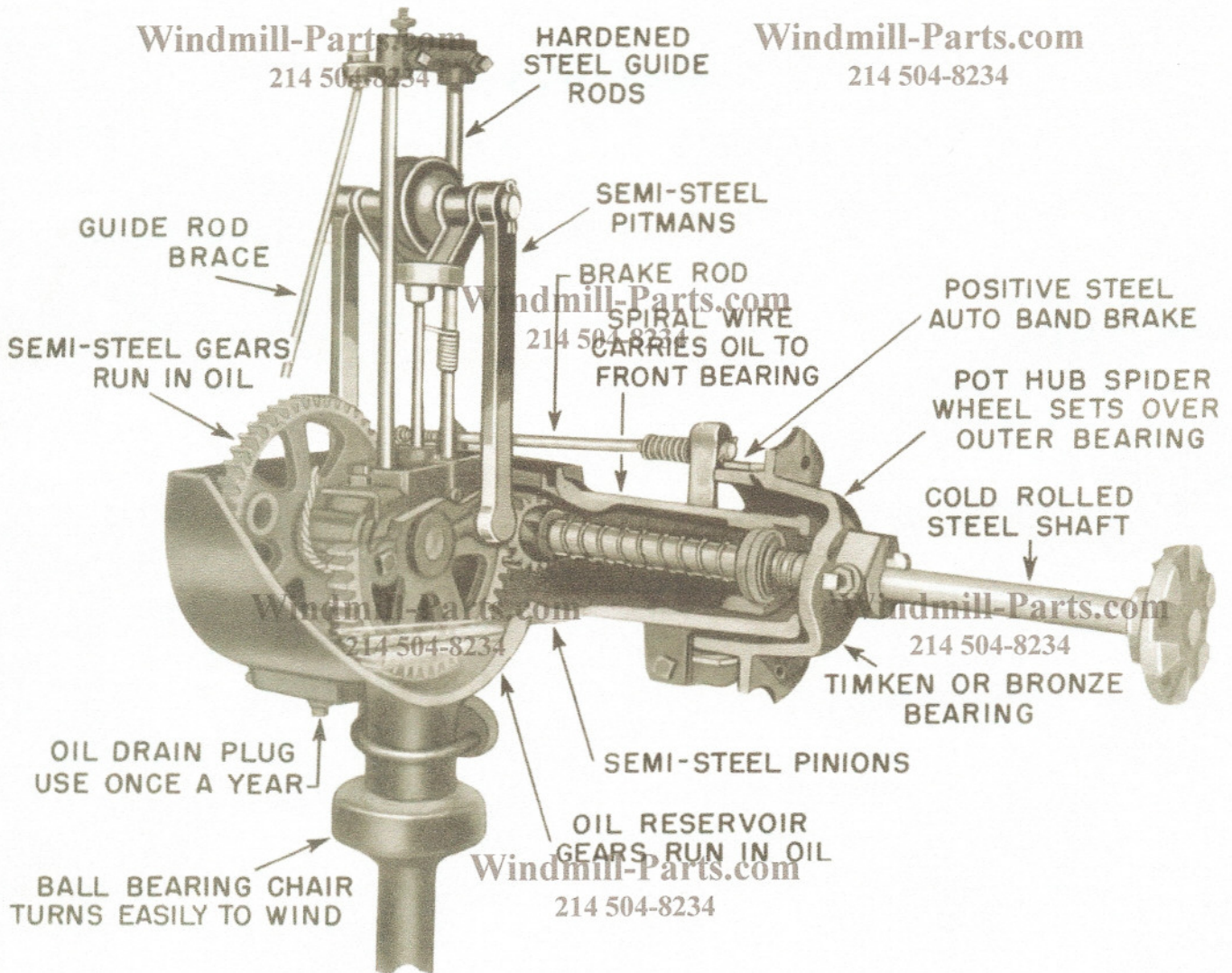
Windmill-Parts.com  
214 504-8234

Windmill-Parts.com  
214 504-8234

# U.S.- CHALLENGE COMPANY

BATAVIA, ILLINOIS

# WINDMILL MOTOR



Simplicity is the keynote of this design. No complicated or delicate bearings. A minimum number of working parts. Foolproof automatic oiling. Straight up and down lift with load centered between gears, pinions, pitmans and guide

rods. Wheel shaft material 35% stronger than ordinary cold rolled steel. High strength cross-head. Entire mechanism protected with a heavy weatherproof helmet against rain, snow, and dust.

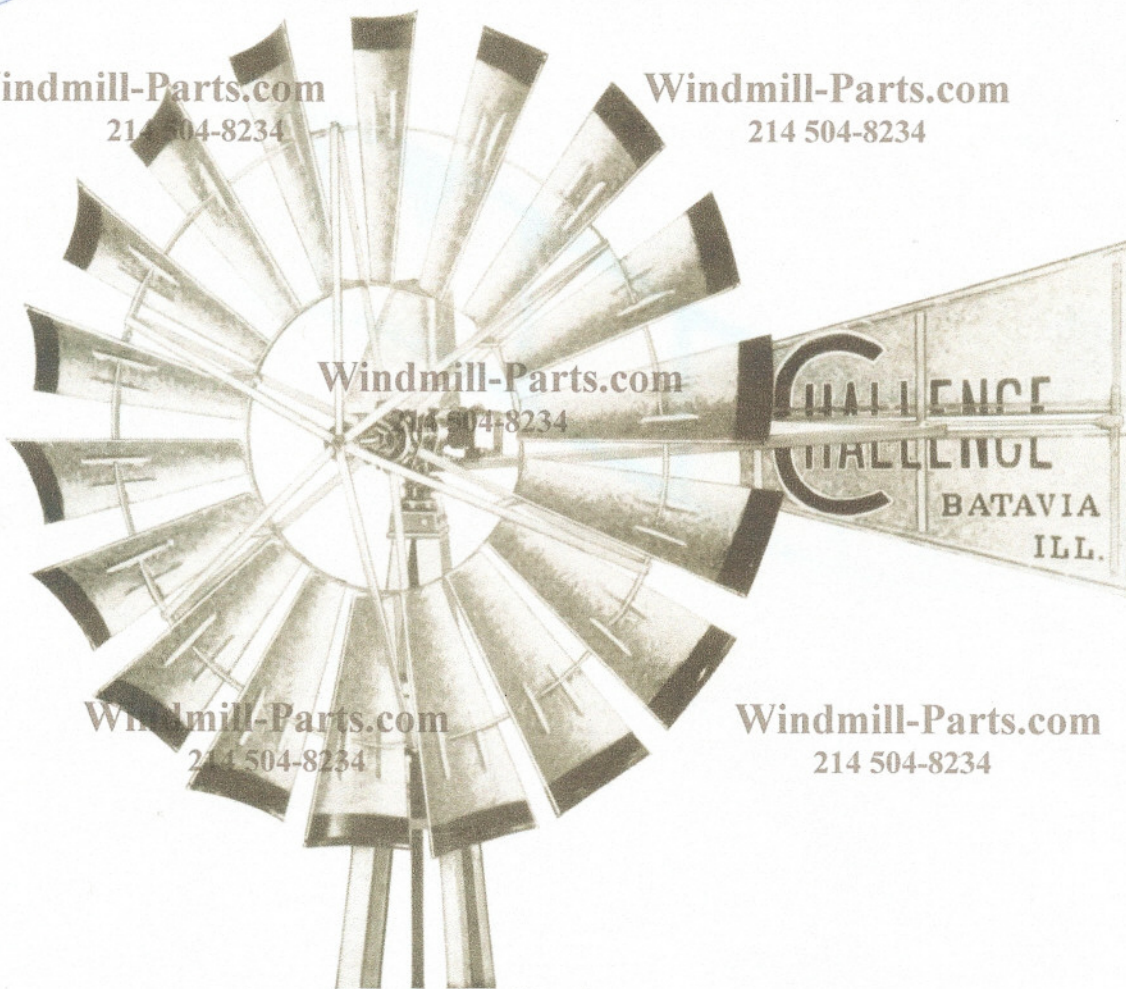
**NEW IMPROVEMENTS AND DEVELOPMENTS**  
**MAKE CHALLENGE WINDMILLS**  
**A GREATER VALUE!**



# MODEL 27 WINDMILL

Windmill-Parts.com  
214 504-8234

Windmill-Parts.com  
214 504-8234



Windmill-Parts.com  
214 504-8234

Windmill-Parts.com  
214 504-8234

Windmill-Parts.com  
214 504-8234

Windmill-Parts.com  
214 504-8234

## A DEPENDABLE - ECONOMICAL WINDMILL

Lowest cost power brings big returns with liberal water supply for comfort and better living—healthier and more profitable livestock. Since 1870 Challenge windmills have been a landmark of sound management providing water for farm and ranch with more economy than any other pumping power. Their sturdy construction assures a lifetime of service, the greatest time, labor, and money saver a farm can have, an investment that pays for itself.

### OUTSTANDING FEATURES

Windmill-Parts.com  
214 504-8234

Windmill-Parts.com  
214 504-8234

1. A powerful combination of double beam construction—gears, pinions, pitmans, and rods with frictionless crosshead. Double locked connections at every point. Adjustable strokes on every mill.
2. Perfect balance has made Challenge known as "the windmill that pumps when others are standing still." It makes use of the lightest breeze to pump more water.
3. A thoroughly galvanized wheel with slats, sections, and arms formed and placed to develop and control the wind for greatest pumping efficiency. Special steel slats have 50-75% more resistance to vibration plus strength adding "beads." One piece heavy arms with extra wide base spread and with bridge-like truss reinforcements.
4. Machine molded semi-steel gears and pinions with a hard, chilled surface that makes them run easier and last longer. Running in oil differential action assures an equalized and quiet operation.
5. Positive gravity, splash and elevator oiling system that cannot fail. Absolutely foolproof, "once a year lubrication." No oil pumps to clog or get out of order. Weather-proof metal cover protects all working parts against rain, snow or dust.
6. Automatic oiling spring device on parts mill in the strongest winds and allows it to do a maximum of work in ordinary winds. Challenge is known as the perfectly governed windmill.
7. All castings made of tough semi-steel. Many of them are chilled for long wear. Guide rods and rollers are case hardened. Wheel shafts of material originated for automobile propeller shafts and average 35% stronger than ordinary cold rolled shafting.
8. Sensitive turntable with grease packed bearings turning in hardened raceways supports the motor load and faces the wheel into the lightest breeze. Tower cap selection makes it easy to place Challenge mills on any make or type of tower. No stub attachments needed.
9. Timken bearings available on all sizes. These nationally known bearings have proved their worth with frictionless operation in every type of high grade machine from automobiles to railroad cars. They permit pumping in light winds and require little attention.
10. Bronze bearings are optional at lower cost on some sizes. They are highly efficient and will not crack or break if lubrication is neglected because by a patented process they contain 25-35% oil reserve.

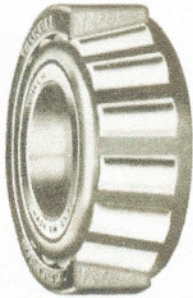
A MILL THAT RUNS IN THE LIGHTEST BREEZE!



# WINDMILL ACCESSORIES

Windmill-Parts.com  
214 504-8234

Windmill-Parts.com  
**BEARINGS** 214 504-8234

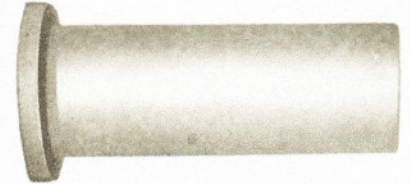


### TIMKEN ROLLER BEARINGS

Bearings that permit the mill to run in the lightest breeze, develop more power and pump more water. Life time service because extensive tests show that lubricated as they are in the Challenge mills there is practically no wear or need for replacement with these well-known friction reducing bearings.

### BRONZE BEARINGS

These bearings are optional in place of roller bearings. Made by a patented process they have a porous structure which holds lubricant containing 25-35% of oil. Absolute self-lubrication if other sources are not available. Developed by the automobile industry for "hard to reach" lubrication points, they are another point of quality in Challenge Windmills.



Windmill-Parts.com **TURNTABLE AND CAP** Windmill-Parts.com  
214 504-8234 214 504-8234

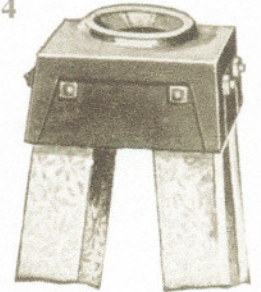


### BALL BEARING TURNTABLE

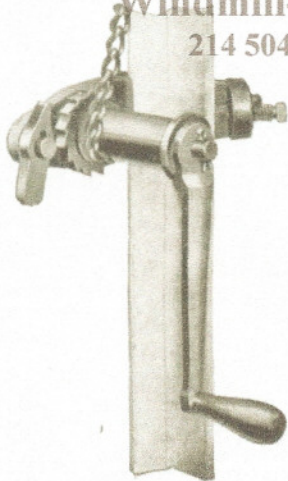
This sensitive self-aligning ball bearing turntable with grease packed bearings turning in hardened raceways helps mill to pump in the lightest breeze. Turntable is locked together into one water-proof unit.

### TOWER CAPS

A wide selection of tower caps makes it easy to fit Challenge mills to other makes of towers, without using a stub. A choice of caps without extra charge.



Windmill-Parts.com **PULLOUT CRANKS** Windmill-Parts.com  
214 504-8234 214 504-8234



### FOR SMALL MILLS

An all-metal pullout crank is standard equipment at no extra cost. Illustration shows the model furnished with 6 3/4', 8', and 10' mills. Positive action and lock. A popular improvement over the old wood pullout lever.

### FOR LARGE MILLS

Geared pullout crank is furnished without extra cost with 12' and 14' mills. A similar but larger crank is furnished with 16' and larger mills. Positive action and lock, with ample leverage makes it easy to pull the mill out of the wind.

