

STOVER OIL-RITE WINDMILLS

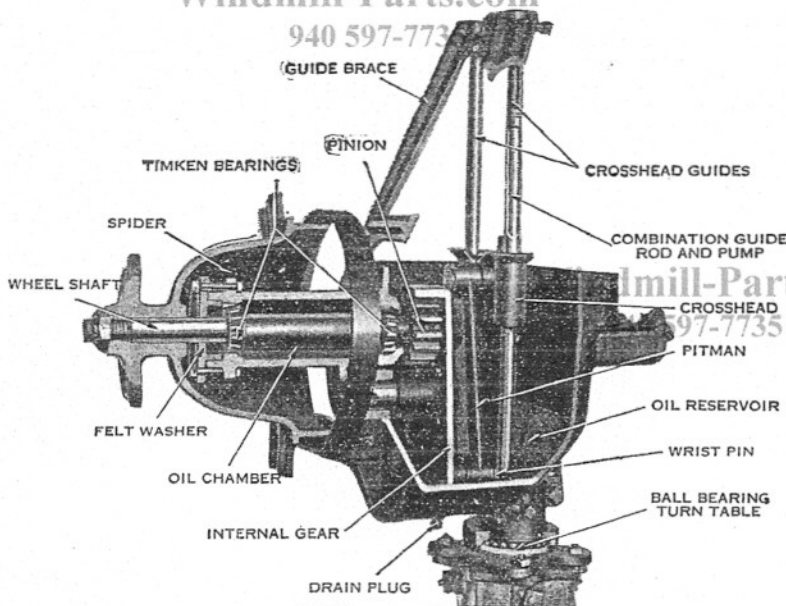


Fig. 440

to the hub of wheel head flooding the rear Timken bearing, and the oil then runs forward to the front Timken bearing and the surplus oil is returned to the gear case through a passage in the wheel head hub. A felt oil retaining washer prevents any oil from working out around the wheel shaft.

The cross head guide for the pitman has babbitt bearings, works smoothly and silently upon the steel guide rod, and steel tube that forms the body for the auxiliary oil pump, both of which are securely anchored in the bottom of the crank case, and supported by the 2 braces attached to the top of the cross head and bolted to the top of the main frame.

Auxiliary Oil Pump

One of the guide rods consists of a hollow steel tube forming a pump cylinder. The plunger is equipped with a pin that travels in a slot in the steel tube and the plunger is raised by the pin in the plunger coming in contact with the cross-head upon the up stroke permitting the oil to flow out of the slot in the upper end of the tubing into the top of the cross-head.

The combination cross-head and reservoir in passing over the guide rods floods the rods with oil and upper pitman bearing is lubricated from a channel in the cross-head leading to the pitman bearing.

The surplus oil from the reservoir is returned to the gear case through a channel on one side of the cross head.

The Governor

One of the most important features of a windmill is the governor. The governor must be carefully and correctly designed to perfectly regulate the speed of the wheel and keep the mill pumping in varying and shifting winds. The governor on the Stover is adjustable and can be set to perfectly regulate the speed in any wind velocity. The governor on the Stover Oil-Rite mill is so efficient that it operates equally as well in high and varying winds as in moderate winds.

Internal Gear

The advantages of the internal gear on the auto oiled windmill is that one end of the tooth is closed, therefore, it will carry at least 4 times the amount of oil as the external gear, has more teeth in mesh constantly and is easier on the bearings. The gear rotates upon a heavy stud securely anchored in the main frame casting. Either the gear or pinion can be quickly and easily replaced if necessary.

A steel pinion is used upon the Stover-Oil-Rite Mill.

Automatic Oiling System

The lubrication of the various parts is accomplished as follows: The oil is poured into the gear case, which submerges the lower part of the internal gear including the wrist pin when at the bottom of stroke. The rotation of the gear carries the oil up and floods the pinion, and the oil running down over the outside of the gear floods the gear shaft. The oil that flows over the pinion is conducted in-

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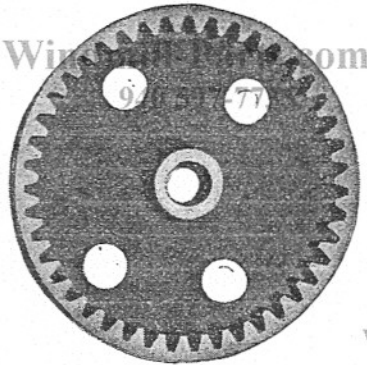


Fig. 441

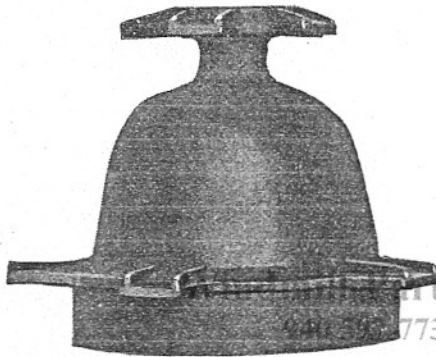


Fig. 442

Timken Roller Bearings

Timken Frictionless Roller Bearings are incorporated in the Stover Oil-Rite Mill. Bearings will last indefinitely and help make mill pump water in the slightest breeze.

Ball Bearing Turn Table

The castings are specially machined to permit a circle of ball bearings to revolve freely when carrying the weight of the mill. Due to the smooth and free operation of this turn table the Stover Oil-Rite Mill will respond to a light wind.

Interchangeability

Samson Windmills now in the field in either the babbitt or Hyatt roller bearing type can be converted into either the Stover or Samson Oil-Rite automatically oiled mill by salvaging the following parts.

The wheel sections and wheel arms upon either the Samson babbitt or Hyatt roller bearing and the Stover Oil-Rite windmill are interchangeable, therefore, to convert either type of Samson Mill into the Stover Oil-Rite, it is necessary to purchase only the complete head as assembled, the vane, vane rail, plunger, pullout wire, and box of fixtures.

The wheel sections, wheel arms, vane, and vane rail upon the Samson Babbitt, Samson roller bearing and Samson Oil-Rite Mills are interchangeable, therefore, to convert either the Samson babbitt or Hyatt roller bearing mill into the Samson Oil-Rite, it is necessary to purchase only the head complete as assembled, plunger, pullout wire, and box of fixtures.

No. of Mill	Size of Mill	Back Geared	No. of Arms	No. of Sections	Stroke in Inches	No. of Fans	Approximate Ship. Weight in Pounds
8-W	8	3 1/3 to 1	5	5	6-8	15	370
9-W	9	3 1/3 to 1	5	5	6-8	15	400
10-W	10	3 1/3 to 1	6	6	8-10	18	555



Fig. 443



Fig. 444

Showing Comparatively Few Working Parts Upon the Stover as Well as the Location of the 2 Timken Roller Bearings

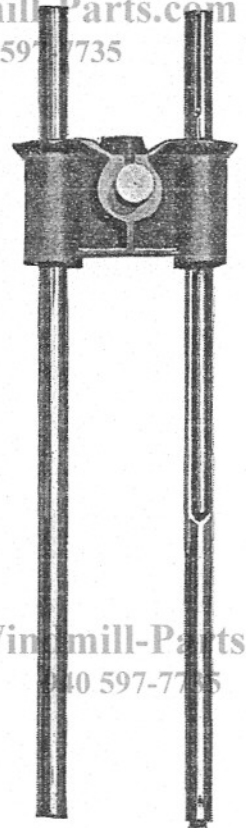


Fig. 445