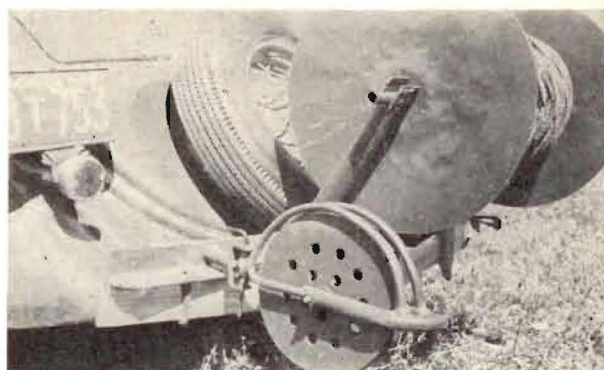


THE modification of the standard pulley tow to be described in this article was developed through the necessity of using a small rough field on the top of a hill, and also because it was not thought economical to build a winch for the occasional use to be given this hill site.

The field used was 1,500 feet in length, fairly rough and rolling. The only way to use it would be to reduce the speed of the car. This was done by adding another pulley to the launching system, as follows:

The rope was anchored to the righthand side of the bumper at the rear, taken over an open sheave pulley (see diagram 1) which was anchored to the ground



## The Double Pulley Tow

By RICHARD NOONAN

stake ten feet behind the car, the rope carried up under the swivel pulley (see photograph) on the car and thence back to the glider.

By the addition of the second pulley, a 3:1 ratio is obtained and the car travel is similarly reduced; that is, in the standard pulley tow method, the car travels half the horizontal distance of the glider and in the double pulley arrangement, the car travels one-third of the forward distance of the glider.

The importance of using open sheave pulleys cannot be over-emphasized. The salient features of this type of pulley are:

1. The open sheave.
2. The minimum diameter of the pulley should be 9".
3. A deep groove is necessary, from 1½" to 2". This is a safety feature which prevents the rope from jumping out of the pulley in case of sudden slack in the rope.
4. The pulley should be arranged to swing laterally only.
5. Fixed rope guides which are arranged over each flange of the pulley allow considerable drift on the part of the glider.

6. Good anti-friction sleeve bearings are necessary.

7. The pulley mount should be so arranged that it is readily removable from the tow-car.

With this type of pulley, the method described is fast and convenient and reduces the strain on the car considerably. It also allows the driver to observe the glider much more readily, due to the very low speed of the car.

A rope storage drum of the type shown in the photograph is extremely useful for reeling in and storing the rope at the end of the day. It is similarly used for playing out the rope for the first launch of the day.

The only question to arise before this method of launching was proved, was whether or not a light roadster would have sufficient traction. Happily enough there was no wheel spin and extremely rapid acceleration was possible when the car was driven in low gear

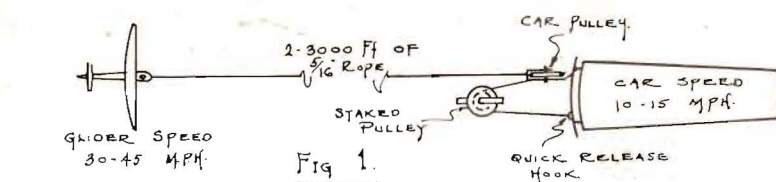
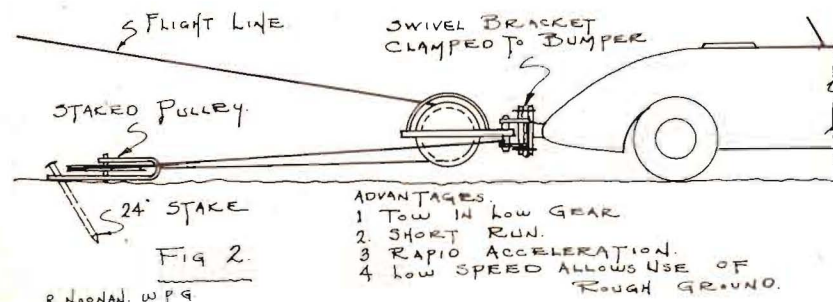
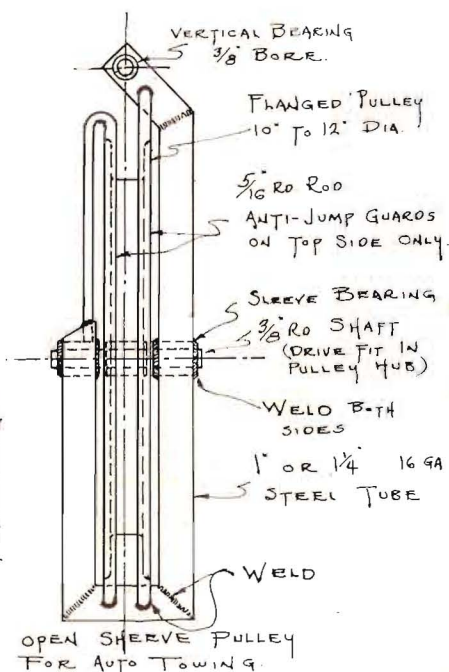


Fig 1.



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OPEN SHEAVE PULLEY FOR AUTO TOWING