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A project of Volunteers in Asia

Winnowing Fan VITA Technical Bulletin No. 39

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TECHNICAL BULLETIN 39

Winnowing Fan

The enclosed plan for a winnowing machine is from the Philippines. The machine can be transported by two men and is a real time saver in the process of cleaning chaff and other impurities from grain. A series of successfully reduced sieves placed at the outlet will sort the grain according to size in the course of winnowing.

A host of power sources can be used to operate the device, the only alteration being that an appropriate pulley or sprocket must be fastened to the fan shaft.

Please send testing results, comments, suggestions and requests for further information to:

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**VOLUNTEERS
IN TECHNICAL
ASSISTANCE**

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Tools Required

- . hammer
- . wood saw
- . wood chisel
- . sheet metal cutting shears
- . screwdriver
- . 1-1/2" drill for wood

Materials

- . soft wood
- . sheet metal (galvanized iron sheet)

Exact quantities can vary with local resources. Possible variations are considerable.

Construction

Details given in diagrams.

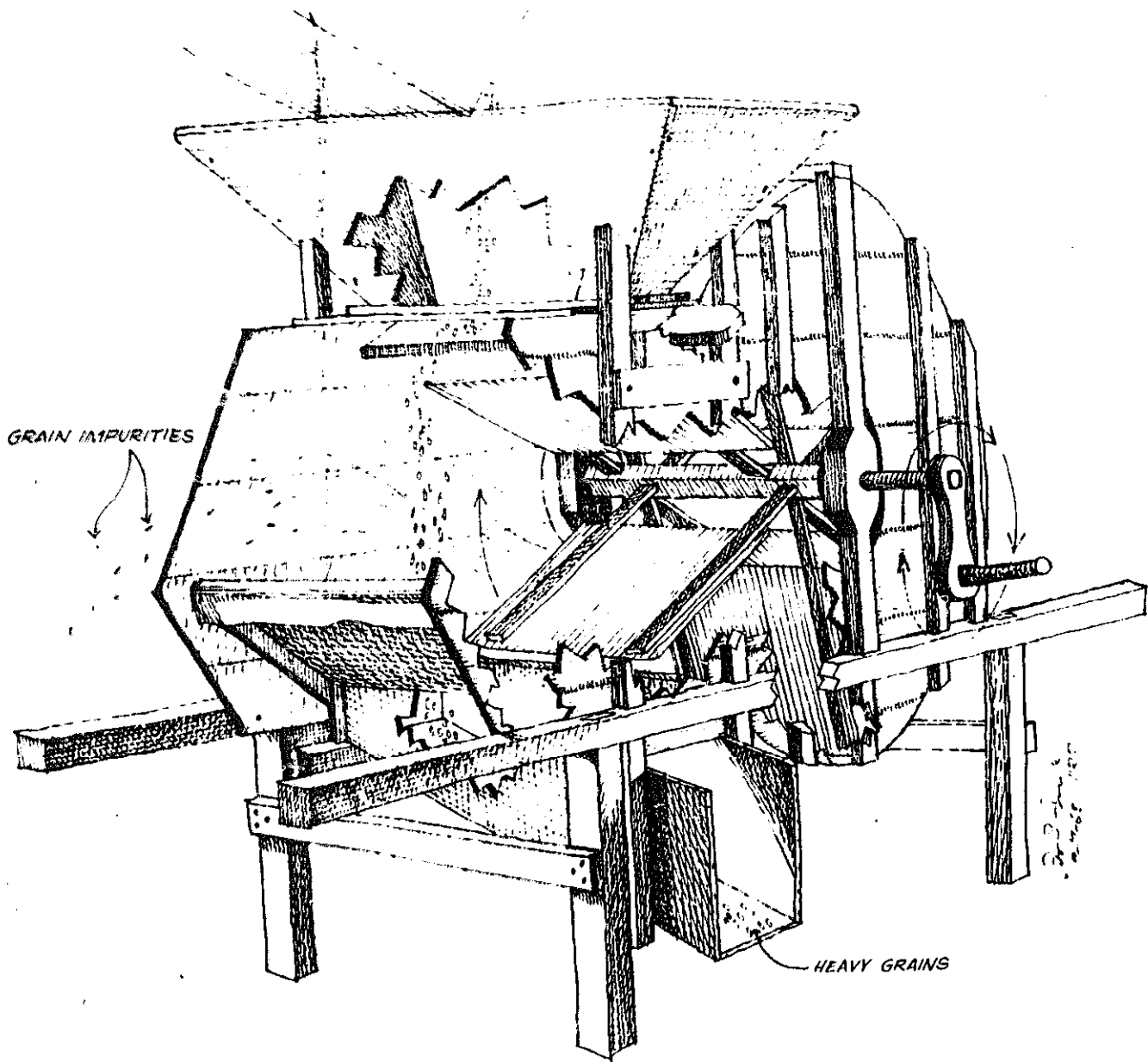
Operation

There are only two variables in operating this device: the speed of the fan and the setting on the quantity control slide. Presuming that the fan is operated at a comfortable rpm for the operator, the only control to be concerned with is the quantity control slide. Moving this slide from the horizontal to the vertical will decrease the percentage of cleanliness of grain and increase the amount of grain processed per unit time.

Adjustment to the desired quantity and corresponding quality of grain processed is best determined by field tests, due to a variety of grain types and impurities as well as a variety of methods by which the grain is harvested and the conditions of humidity and temperature. Adjustment is managed by shifting the "stepped" board into a position at which one of the steps supports the quantity control slide handle at the desired angle.

Maintenance

Since the only moving part is the fan shaft, this is the only part which will tend to wear. Periodic lubrication with heavy oil or grease will prolong the life of the fan shaft at points of wear.



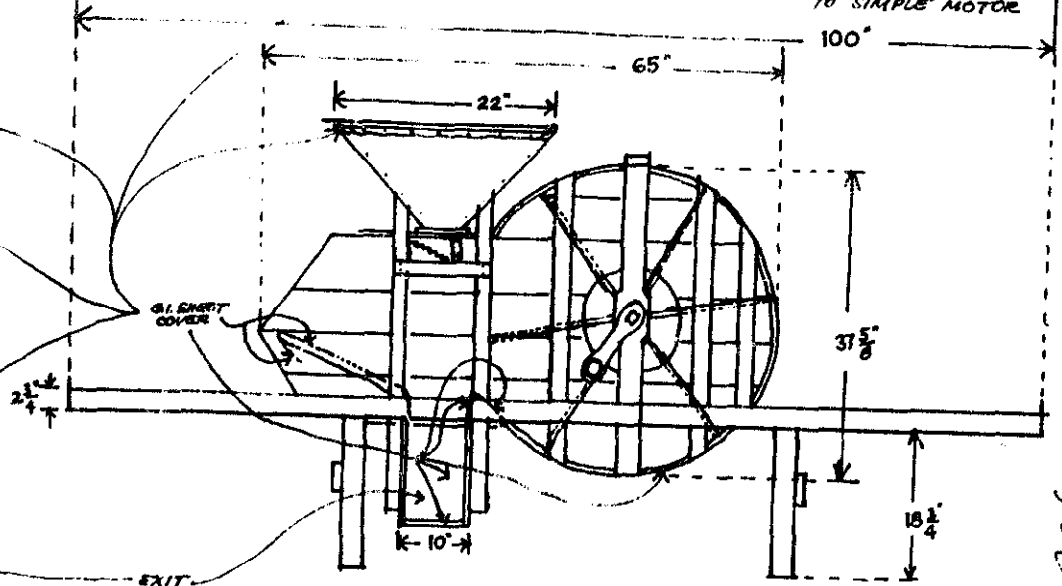
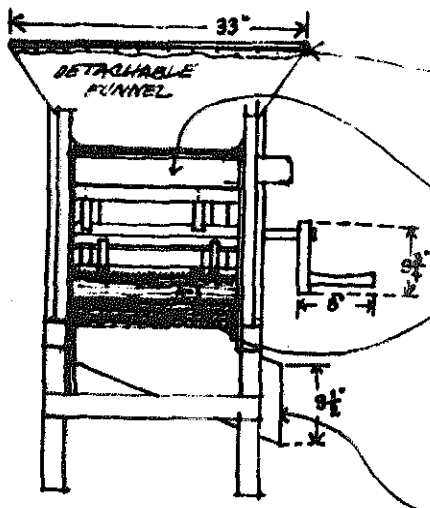
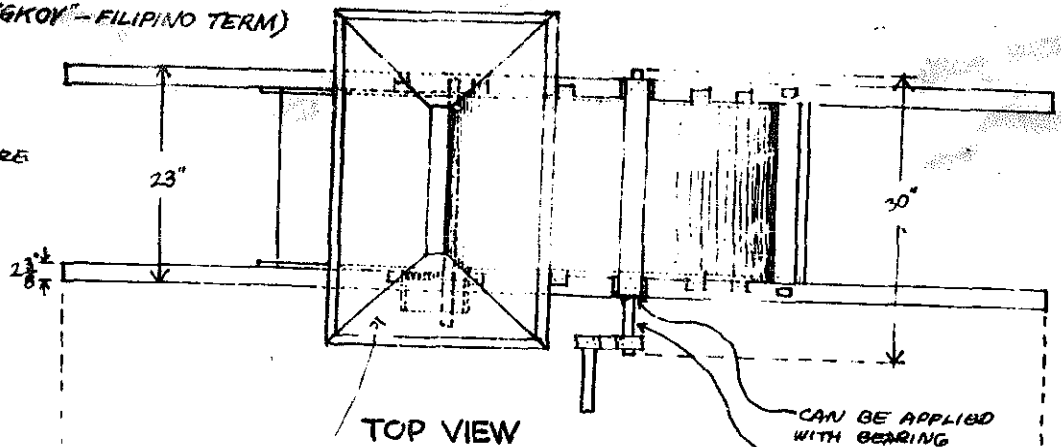
GRAIN IMPURITIES

HEAVY GRAINS

WINNOWING MACHINE

WINNOWING MACHINE (HONGKOK - FILIPINO TERM)
 (CAN BE CARRIED BY TWO MEN)

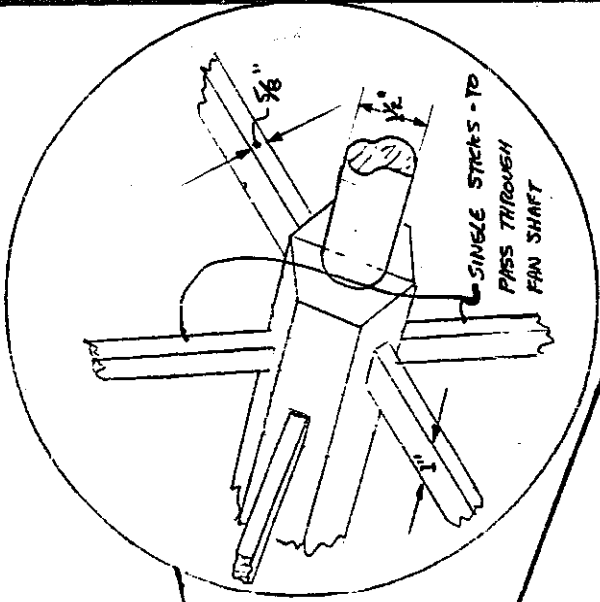
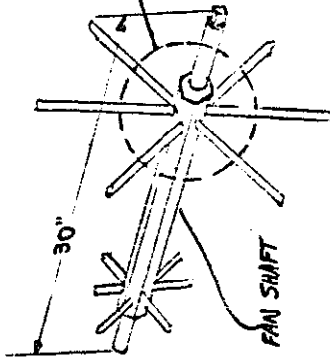
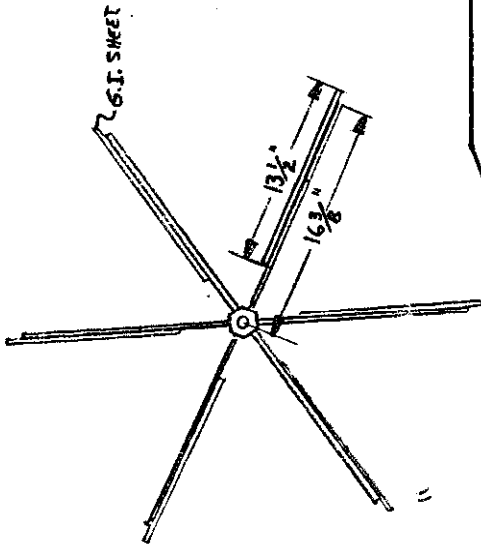
- SOME MEASUREMENTS DEPEND UPON THE AVAILABILITY OF WOOD.
- MEASUREMENTS HERE (MORE OR LESS) ARE TAKEN FROM AN ORIGINAL MACHINE.



Oct 5, 1948

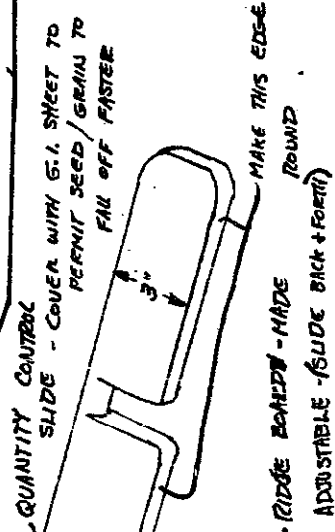
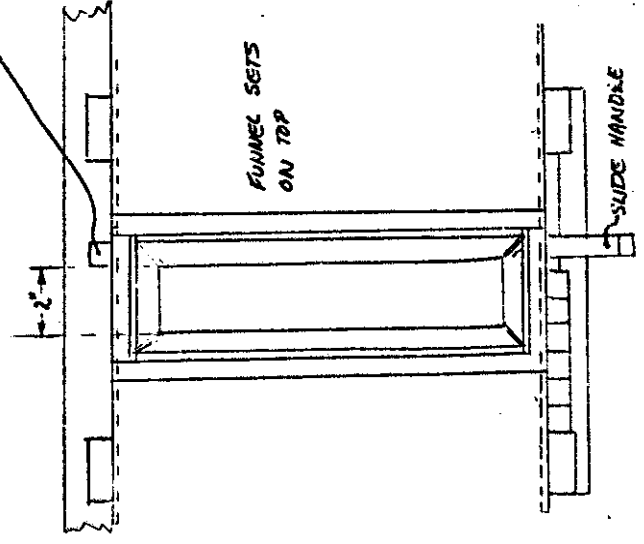
WINNOWING FAN DETAIL

FAN- END VIEW



SLIDE & HOPPER

GRAIN / SEED INLET - TOP VIEW



GRAIN W/ IMPURITIES ENTERS HERE

ENTRANCE IS CLOSED WHEN HANDLE TO SLIDE IS PUT IN HORIZONTAL POSITION, AND OPEN WHEN SLIDE HANDLE IS IN VERTICAL

