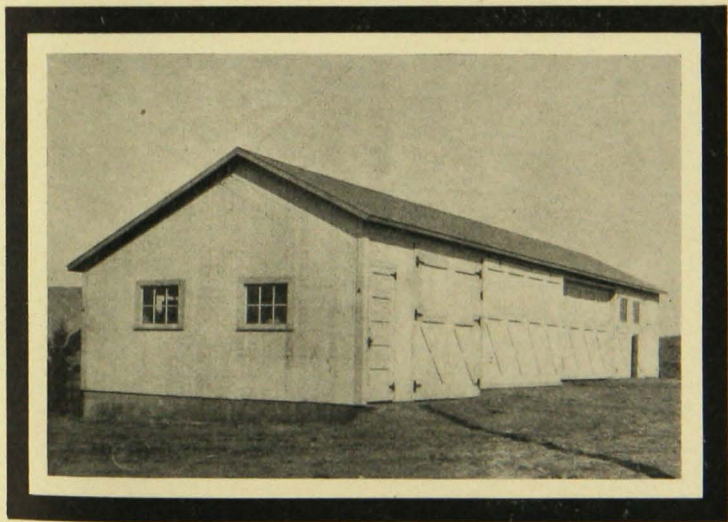


MACHINE SHEDS

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A Convenient Machine Shed

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FARM MACHINERY SHOULD BE SHELTERED

With the increased use of machinery in farm operations, it is more than ever important that attention be given to its proper shelter. Farm machinery that is kept in a shed when not in use is in better condition and lasts longer than that left outside, where the animals use it for a rubbing post and the chickens roost on it.

Exposure to the weather destroys the paint and causes the wood to warp and the iron to rust. More power is required to operate a warped and rusted machine, and the results are less work accomplished and that of poor quality. Good management in the housing and oiling of machines will add to the income, as "a penny saved is a penny earned."

A well located and convenient shed adds to the appearance of the place and to the satisfaction of work well done. The shed need not be elaborate, but the roof should be tight and the floor dry. The sale value of the machinery is higher if it is in good repair and properly sheltered, as is also the sale value of the farm itself. A machine shed with the sky for a roof is not a good advertisement.

It is a good plan to decide where the shed can be located to be convenient to the house and the barn, and then to consider the space needed to house the equipment already on the farm and any additional machines likely to be added in the future.

A workbench should be put just inside the door and in a light place, in order that repairs may be made quickly and conveniently, and work requiring more time may be done on rainy days.

LOCATION OF SHED WILL VARY WITH FARM

A study of the farmstead should be made and the shed located where it will be most convenient and at the same time not detract from the appearance of the place as a whole. If it can be put on ground that is well drained it may be possible to make repairs outside the shed, even after a rain when the fields are still wet.

KIND OF SHED TO BUILD

There are many kinds of machine sheds. The open shed is very common but it does not protect the machinery from the animals and the chickens. It is not neat, and if in a conspicuous place detracts from the appearance of the farmstead. A long narrow building seems to be most satisfactory on the average farm, as it can have more than one door, making it easy to put in and take out the machines. On a large farm

a wide building with a driveway through it lengthwise is convenient, as the machines can be taken in with the team. A concrete floor adds to the ease with which this can be done.

SIZE AND NUMBER OF IMPLEMENTS DETERMINE SIZE OF BUILDING

A list should be made of implements and machines that are to be sheltered and the space occupied by each. The total area thus obtained will serve as a guide in deciding the size of building to erect. The need for additional equipment and the replacement of old machines by larger ones make it desirable to have a building large enough that crowding is not necessary.

The following table shows the amount of floor space necessary for common farm machines. It is possible to store them more closely, but not desirable. No one type of farming will require all the machinery in the list.

	Feet		Feet
Automobile	7×16	Hay loader	10×12
Binder	8×15	Manure spreader	7×12
Buggy	7×12	Mower	5×8
Corn binder	7×10	Potato digger	5×8
Corn cultivator (one-row)	5×6	Rake	6×12
Corn cultivator (two-row)	6×10	Side-delivery rake	8×12
Corn planter	6×6	Silage cutter	7×8
Disk harrow	5×9	Sulky plow	5×7
Gang plow	6×8	Tedder	6×10
Grain drill	6×12	Tractor	7×14
Harrow	4×6	Wagon	7×14

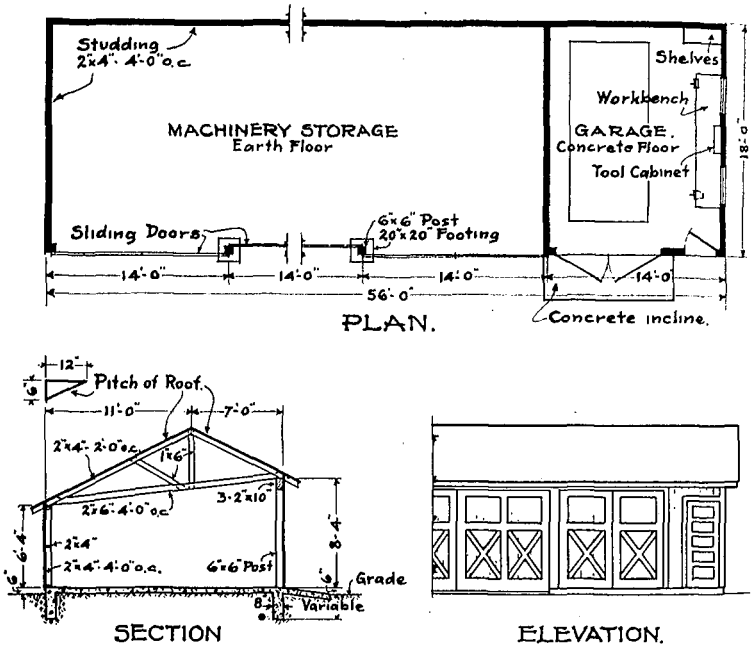
The length of lumber available also influences the width of building that can be economically constructed. It has been found that widths of 18, 24, and 26, feet are very satisfactory. It is a good idea to consider the arrangement of the doors, as the building can be made stronger and built more economically if extra doors can be omitted. Make the building large enough that the various machines can be put in and taken out without too much moving of other machines.

GOOD CONSTRUCTION PAYS

The machine shed should be strong and durable. The foundation is usually extended about 18 inches below the surface of the ground or to uniform clay soil so that it will not be heaved by the action of frost. A permanent foundation wall may be 6 inches thick at the top and 8 or 12 inches at the bottom. It should extend 6 inches or more above the level of the ground.

The floor may be earth, gravel, or concrete. It is important that the floor remain dry, hence it should be a little higher than the surrounding ground.

The walls may be boarded with vertical boards and battens or with matched lumber, put on vertically. If the walls are to match the barn they may be of drop siding, stucco, hollow building tile, or concrete blocks.



MACHINE SHED PLAN 253

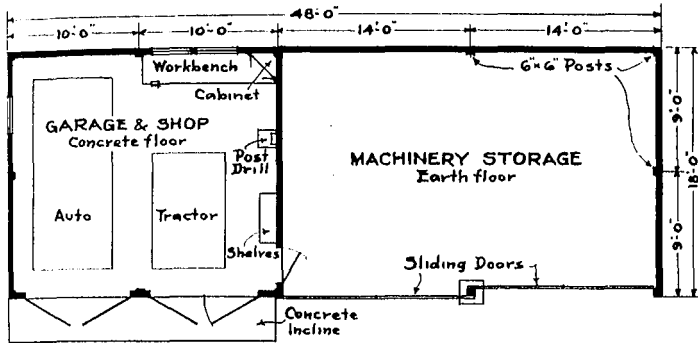
Fig. 1. Machine Shed 18x56 Feet. Plan 253

The roof should be strong enough not to sag, or to be blown off if the doors are left open. It is usually covered with prepared roofing or wood shingles. It pays to lap the prepared roofing 4 to 4½ inches to make sure that it does not leak in driving rain if the cement cracks from exposure to heat and cold.

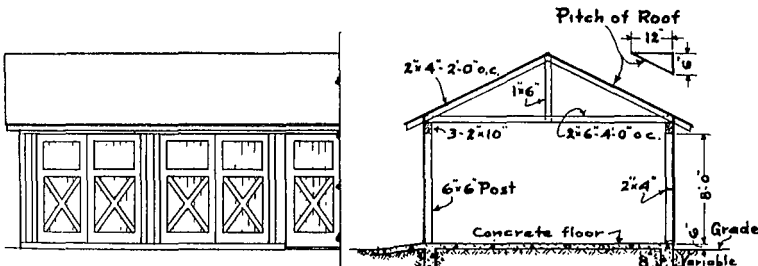
Doors are most likely to be damaged by wind or machines. Two 7-foot doors are more satisfactory than one 14-foot door. It is important that they open and close easily and do not warp and bind.

CONVENIENCE IS ESSENTIAL

A door 2 feet 8 inches wide should be provided to avoid opening the large doors when it is only necessary for a person to enter. With modern door hangers, the entire front of the building can be opened.



PLAN.



ELEVATION.

SECTION.

MACHINE SHED
PLAN 210

Fig. 2. Machine Shed 18×46 Feet. Plan 210

MACHINE SHED PLANS FOR MINNESOTA

A machine shed that will fit into most farmsteads is Plan No. 253, shown in Figure 1. The garage may be placed at the end nearest the house. The garage shown has a concrete floor and is equipped with workbench and tool cabinet. The machinery storage space has an earth floor. The front wall as shown is 8 feet high, the rear wall 6 feet. This gives a longer slope of roof to the rear and a short slope to the front; and is more attractive than a shed roof; 2×4 rafters are used. A shed roof will sag unless 2×6 rafters are used.

Under ordinary conditions, the doors should be half the width of the doorways, as they are more easily handled than larger ones and are not so liable to warp and become difficult to operate. A building of the width shown is easily constructed and is not expensive when the value of machinery that can be sheltered is taken into consideration. A cost of about \$10 per foot of length is all that is necessary for a well-built shed of this type of good quality of material.

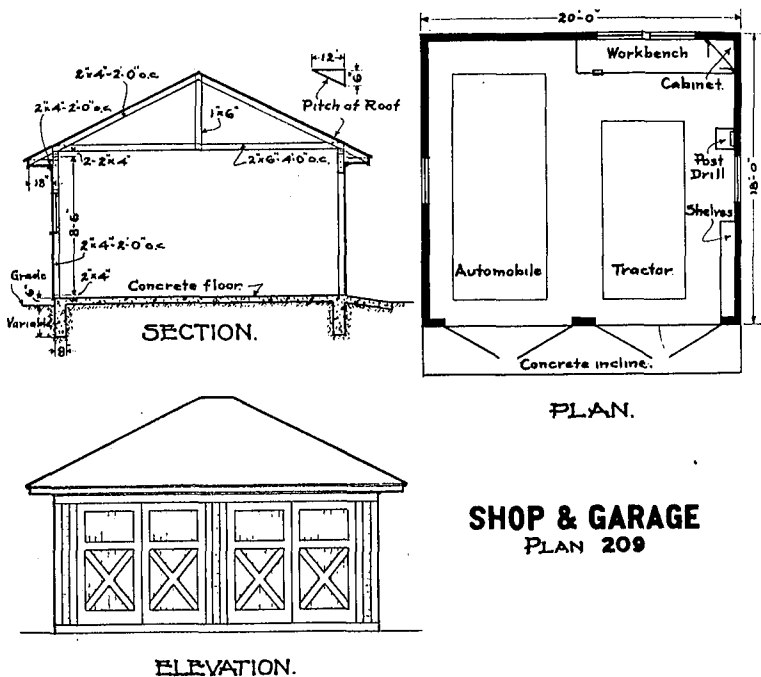


Fig. 3. Shop and Garage 18×20 Feet. Plan 209

A shed with more shop space is shown in Figure 2, Plan 210. The machinery storage space may be enlarged by the addition of as many 14-foot spaces as the farm equipment requires. It might be more desirable in some cases to put the auto next to the partition, thus bringing the bench and shop equipment at the end, for better light. The side walls of this shed are 8 feet high and give plenty of head room even at the back wall.

A separate shop and garage is often a good addition to the farm buildings. Figure 3, Plan 209, shows a building 18×20 feet which will shelter the auto and tractor as well as serve for a shop for repairing and overhauling.

The garage is often built separate from the machine shed. Figure 4, Plan No. 184, shows a single garage 12×18 feet with 7½ foot studding.

Sometimes the garage doors are put in the end of the machine shed. Figure 5, Plan No. 208, shows such an arrangement. The shop occupies the end of the building with the garage. The building is 24×60 feet and has 10-foot walls, so the shelter is big and roomy with large doors and without posts or complicated framing. The garage has a ceiling to keep out dust.

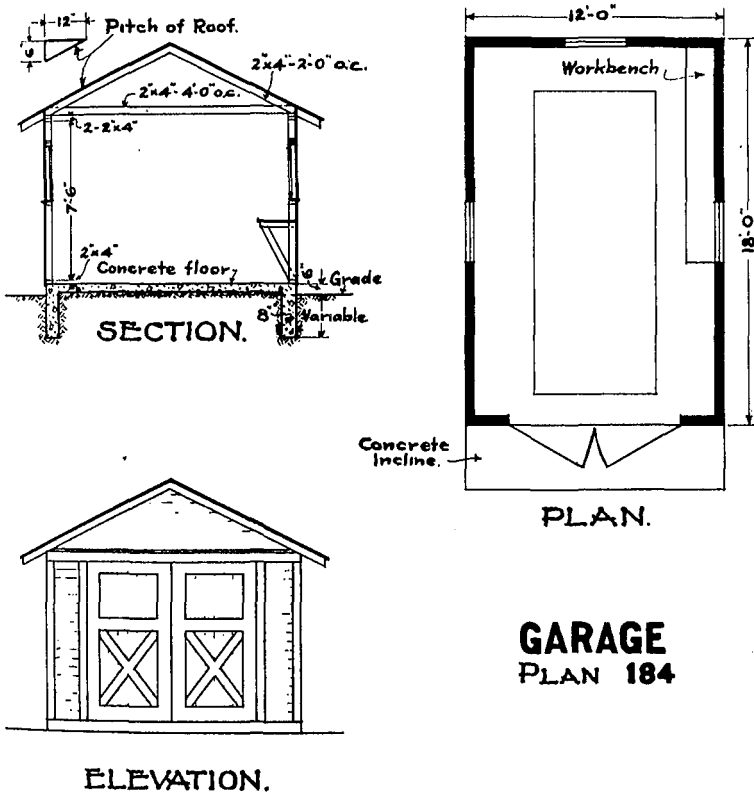
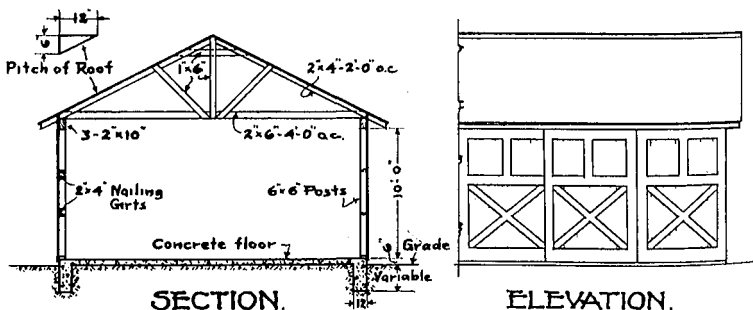
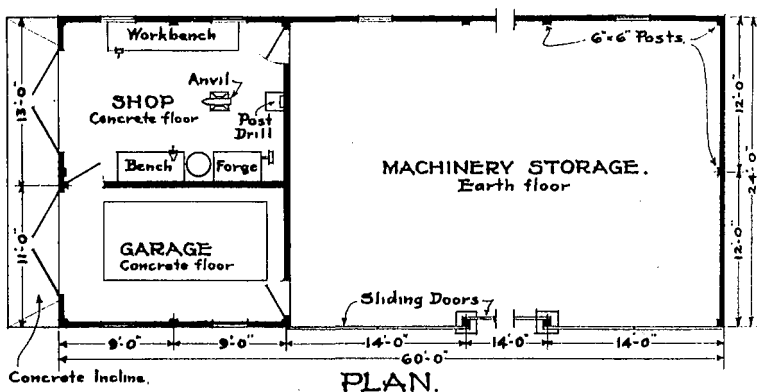


Fig. 4. Garage 12×18 Feet. Plan 184

On a farm where a large amount of machinery is used, the machine shed should have a concrete floor free from posts. The machines can then be taken into the building by the team and pushed into place along the wall, and easily pulled out to be hitched to when needed again.

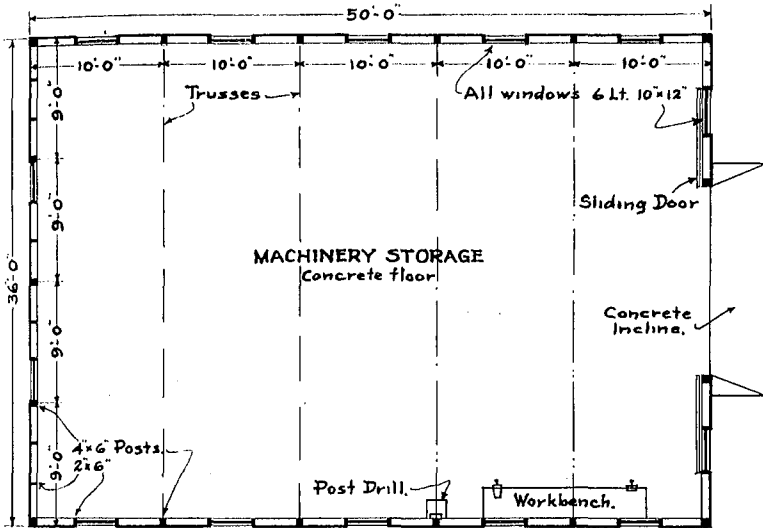
Figure 6, Plan No. 270, shows a shed 36×50 feet with full concrete floor free from posts. The roof is supported by simple trusses which are easily constructed, and is strong and durable. A large doorway is an important feature and should be made even wider than 14 feet if large machines are used. The windows will admit sufficient light for ordinary jobs of assembly and repair. A workbench may be built at one side of the doorway. The machines can be compactly stored, as with a concrete floor it is not difficult to remove the one that is needed. By a little care in placing the machines, the moving necessary will be reduced to a minimum. A space just inside the doorway opposite the bench may be used for the auto if a separate garage has not already been built.



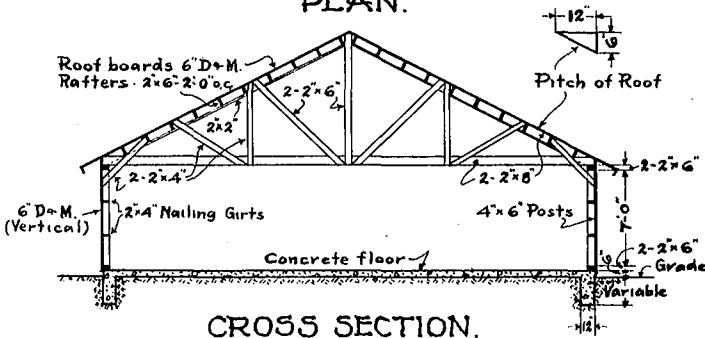
MACHINE SHED PLAN 208

Fig. 5. Machine Shed 24×66 Feet. Plan 208

Such a combination building as is shown in Figure 7 is very convenient for the auto and tractor. The walls are of hollow tile and on the first floor there is space for the water pressure system and a small shop. Upstairs is a space for drying seed corn and a room for hired men.



PLAN.



CROSS SECTION.

MACHINE SHED
PLAN 270

Fig. 6. Machine Shed 36X50 Feet. Plan 270

TOOLS FOR THE FARM SHOP

The up-to-date farmer uses mechanical equipment to carry on his business economically. In order to keep the equipment in repair it is necessary to have good dependable tools where they can be found when needed.

The cabinet shown in Figure 8, Plan No. 249, is very easily made. It is nailed together like a box and then sawed apart to make one part 3 inches deep and the other 2 inches deep. By this means making a door is unnecessary. One-inch lumber is used for the top, bottom, and sides; one-half inch boards for the front and back. The hasp keeps the door securely closed. The placing of the tools in the cabinet will vary. The arrangement shown has been found satisfactory. Each tool should have its place and should be returned to it when a job is finished.

The tools should be carefully selected as needed. It is seldom advisable to purchase all at one time, altho a saving in cost might be possible if this were done.

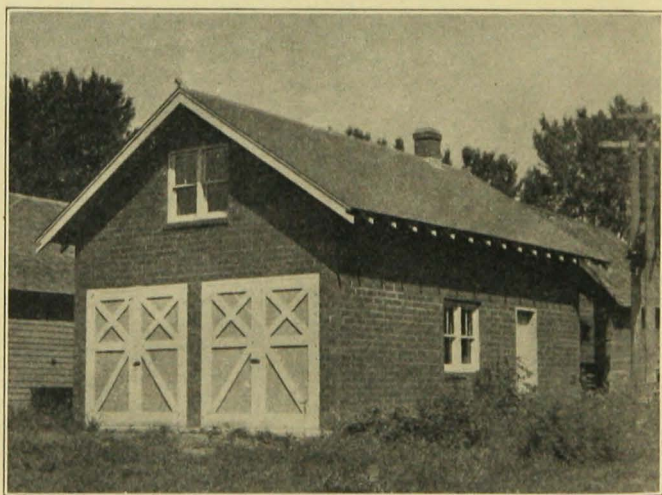
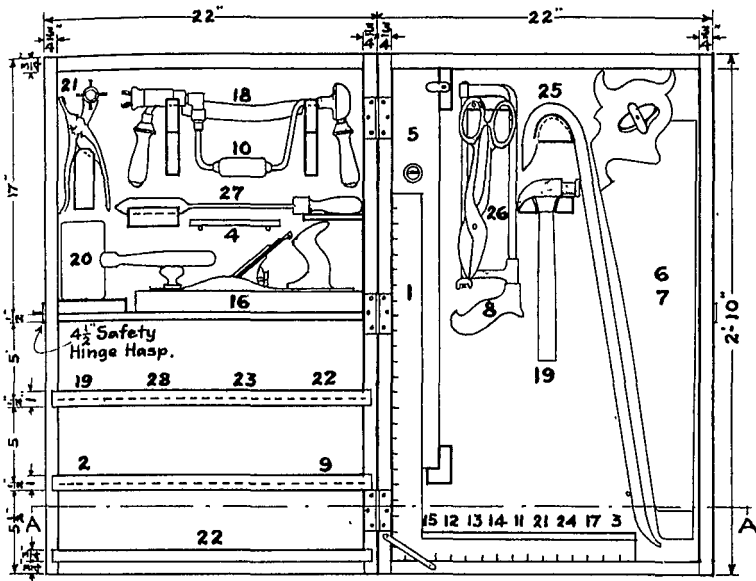


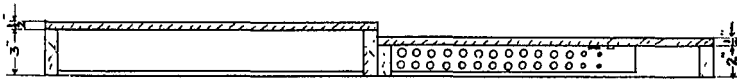
Fig. 7. Combination Shop, Garage, and Well House

The name of a manufacturer with an established reputation for making good tools is usually a guaranty of good quality. If a dealer sells a new brand, either he or the manufacturer should replace defective tools. Cheap tools of inferior quality are a disappointment.

A tool cabinet is usually located just above the back of the bench. The bottom should be about forty inches above the floor.



ELEVATION.



SECTION A-A.

TOOL CABINET FOR THE FARM SHOP PLAN 249

Fig. 8. Tool Cabinet for the Farm Shop. Plan 249

TOOLS IN CABINET

- | | | | |
|----------------------------|----------------------|----------------------------------|-----------------------------|
| 1 Framing square | 16 X 24 in. | 10. Brace | 10 in. |
| 2 Marking gauge | 8 1/2 in. | 11. Blacksmiths' drills (1/2 in. | |
| 3 Dividers | 8 in. | shank) | 1/4, 5/16, 3/8, 1/2 in. |
| 4 Rule | 2-foot | 12. Bit stock drills | 1/4, 5/16, 3/8, 1/2 in. |
| 5 Level | 26 in. | 13. Auger bits | 1/4, 3/8, 1/2, 5/8, 3/4 in. |
| 6 Hand saw | 8 points, 26 in. | 14. Expansive bit | 7/8-3 in. |
| 7 Rip saw | 5 1/2 points, 28 in. | 15. Gimlets | Nos. 4, 5, 6, 7 |
| 8 Hack saw | 8 to 12 in. | 16. Jack plane | 15 in. |
| 9 Files | | 17. Chisels | |
| Flat bastard | 12 in. | Cold | 1/2, 3/4 in. |
| Mill bastard | 10 in. | Socket firmer | 1/2, 1 1/2 in. |
| Round bastard | 6 in., 10 in. | 18. Drawknife | 8 in. |
| Slim taper | 5 in., 6 in. | | |
| Half round wood | 10 in. | | |

19. Hammers		Crescent	6 in., 10 in.
Nail	1¼ lb.	Engineers' (double end)	
Blacksmith's cross pein	1½ lb.	Cap screw	1/4-5/6 in.
20. Mallet (mortised handle)	5 in.	Nut... 5/16-3/8, 7/16-1/2, 9/16-5/8 in.	
21. Punches		23. Pliers (slip joint)	6 in.
Center	3/8×4 in.	24. Screw drivers	3, 6 in.
Solid	1/4, 5/16, 7/16 in.	25. Wrecking bar	30 in.
Revolving belt (4 tubes)		26. Tinners' snips	3 in.
22. Wrenches		27. Soldering copper	1½ lb.
Monkey (knife handle)	12 in.	28. Pinchers	12 in.
Pipe	14 in.		

TOOLS NOT KEPT IN CABINET

Machinists' vise	4 in.	Grindstone	
Vise screw	1⅞ in.	Oilstone (India No. 1½)	
Anvil	70 lbs.	Oiler	
Post drill		Riveting machine (tubular rivets)	