



The Editor of Handy Man's Workshop will be glad to receive any hints for this department and pay for them if available.

**HOLDER FOR BROKEN SHANK DRILLS.**  
BY A. FAGAN.

A convenient drill holder that may be fitted to an ordinary carpenter's boring brace can be made as follows: Take a piece of soft steel about two inches long. File it tapered to fit the brace. Bore a hole in the larger end to a convenient depth and to size of

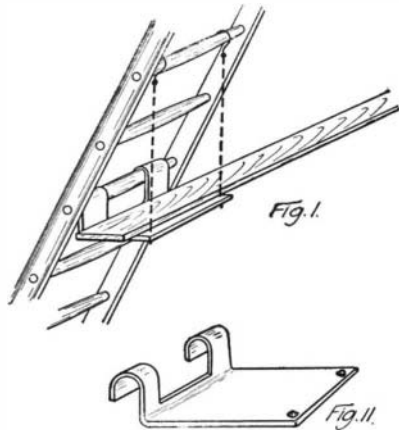


**HOLDER FOR BROKEN SHANK DRILLS.**

drill to be held. File slot in side and to the center of the holder as shown, with the front edge of the slot flush with the end of the drill hole. Grind the end of drill flat at one side as far as center, so that when the drill is placed in the holder the flattened end will project beyond the drilled hole and engage the bottom of the slot. With this device broken shank drills may be utilized to advantage.

**A PAINTER'S PLATFORM BRACKET.**

When painting the side of a house or a building, it is not always convenient to rig up a platform, supported from the eaves or roof. It may also be a one-man job, in which case a platform of that nature would be inconvenient anyway.

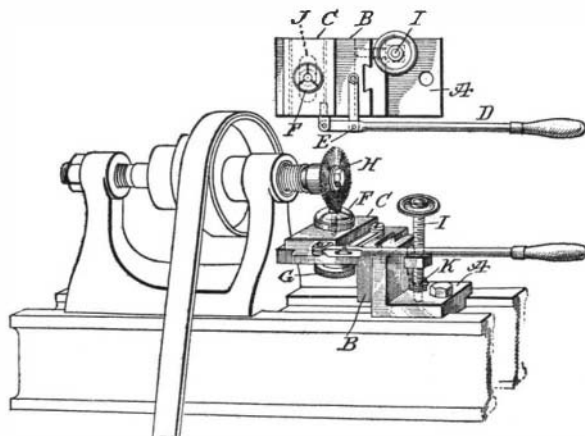


**A SIMPLE SUPPORT FOR A LIGHT SCAFFOLD.**

The following contrivance has been used with every satisfaction: Fig. 1 is a view looking at the under side of the ladder, to better show the bracket in use. The plank stretches across to a similar contrivance, attached to a second ladder not shown. One end of a plate is cut as shown in Fig. 2, and bent into the shape of a hook, to fit over the rounds of the ladder. Two holes are made in the opposite corners for the chains. The other ends of the chain are furnished with hooks, to reach the rounds of the ladder above the level of the platform.

**SCREW-SLOTTING ATTACHMENT FOR LATHES.**  
BY H. D. CHAPMAN.

The accompanying drawing suggests a method of converting an old lathe or speed lathe into a screw-slotting machine.



**SCREW-SLOTTING ATTACHMENT FOR LATHES.**

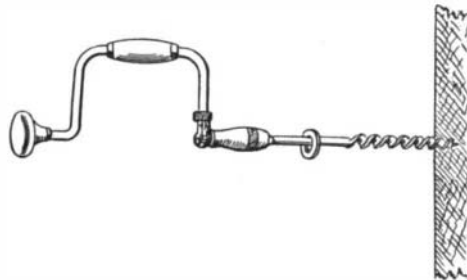
The angle plate A is secured to the bed of the lathe. In the vertical face of angle plate A is a dovetail groove, in which angle plate B fits, so as to afford an up-and-down motion. On the top face of angle plate B is a dovetail groove, in which slide plate C operates.

Lever D pivots on swivel E, giving movement to slide plate C. Place the screw to be slotted into draw chuck F, and tighten on draw wheel G. With the fixture so placed on lathe bed as to cut the screw central, the depth of the slot may be regulated by adjusting screw I. By moving the lever D, the screw is fed into saw H. There is an elongated slot F in angle plate B to allow the draw clutch to pass through and move back and forth on slotting screws. In angle plate A is a stud K to hold in position the adjusting screw I.

By a little practice the screws may be slotted very rapidly, as I have observed in the shop where I work.

**A GUIDE FOR DRILLING HORIZONTAL HOLES.**

A large washer makes a good level for drills to show whether the hole is being drilled horizontally. Place the washer on the shank of the drill or bit, and then



**A GUIDE FOR THE BIT STOCK.**

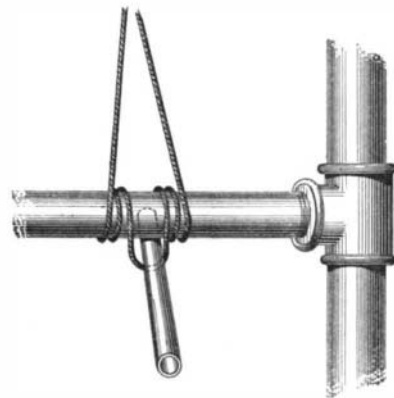
if it feeds forward or backward while the bit stock is being operated it indicates that the bit is tipped upward or downward, respectively. When the bit is held horizontal, the washer will remain stationary. The washer should be free from burrs, and the opening should preferably be turned true.

**SUBSTITUTES FOR A PIPE WRENCH.**

BY J. A. BERGSTROM.

The accompanying illustration represents an improvised pipe wrench, very simple, yet effective, one that will fit the largest or smallest pipe. It may be used on brass or iron pipe, without marking or defacing the same.

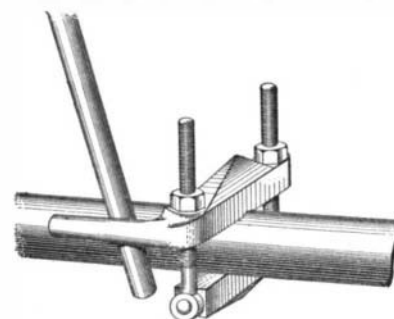
A sling or a short piece of rope is made double



**IMPROVED PIPE WRENCH WHICH WILL NOT MAR THE PIPE.**

and passed around the pipe three or four times, as shown in the illustration, leaving a short loop in the middle. Into this loop is inserted a short piece of pipe or a stick far enough to pass the center of the pipe. The loose ends of the rope are held tight with one hand, while the short piece of pipe or stick is held in the other. Now the tighter the loose ends are pulled, the tighter the rope will hug the pipe, and it will be possible to exert quite as much pressure on the pipe with this arrangement as with an ordinary pipe wrench. To be sure, it will largely depend upon the strength of the rope. This may of course be doubled or trebled, according to the size of pipe to be screwed home. When working on polished brass or steel pipes, a little resin may be put on the rope, which will increase the friction, or one or more turns around the pipe will answer the same purpose.

Another improvised pipe wrench consists of an ordinary lathe dog secured to the pipe. The turning of



**A LATHE DOG AS A SUBSTITUTE FOR A PIPE WRENCH.**

the pipe may be done with a monkey-wrench or a short piece of pipe or a stick inserted between the shank of the lathe dog and the pipe.

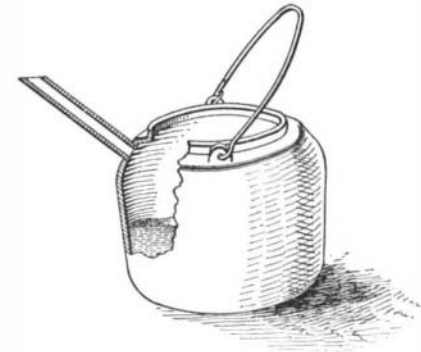
In close quarters, of course, the dog will have to be opened and turned on the pipe little by little.

**OLD GLUE POT AS A METAL POT AND LADLE.**

BY A. V. SEARING, JR.

A very handy metal pot for which no ladle is needed may be made by taking the outer part of a glue pot, and drilling a hole near the top, which is to be tapped to receive the threaded end of a piece of 1/8 or 1/4-inch gas pipe. The opposite end of the pipe should be beveled to form a convenient spout.

With this device bearings may be habbitted which would be very difficult to get at with an ordinary ladle. The pipe forms a handle which may be seized with the pliers when pouring the metal. To preserve



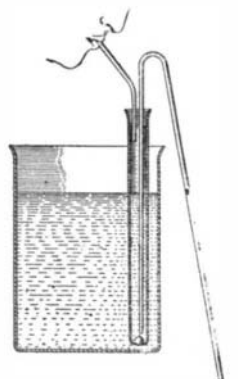
**OLD GLUE POT AS A METAL POT AND LADLE.**

its usefulness as a glue pot, insert a cork or wooden plug in the end of the gas pipe.

**STARTING DEVICE FOR SIPHONS.**

How to start a siphon running is sometimes quite a problem. If the liquid that is to be siphoned off is harmless, the siphon tube may be filled by suction with the mouth at the end of the longer arm. But this is not always very pleasant, and sometimes it is even dangerous if the liquid is of a poisonous nature. The accompanying engraving illustrates a method by which the siphon may be started by compression instead of suction. The idea is so old that probably it is new to many.

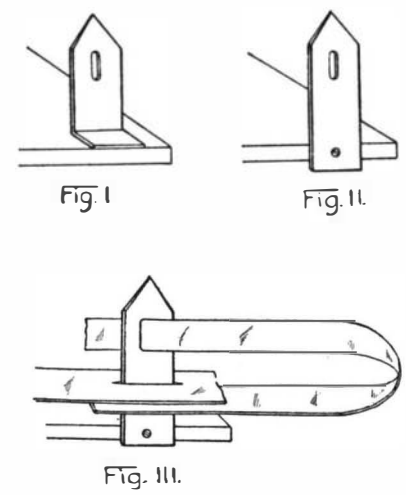
The device consists of a large test tube, in the open end of which a cork is fitted, while in the opposite end a small hole is cut by means of a file. A glass marble is placed in the tube, and serves as a valve to close the opening. Through the cork the shorter leg of the siphon is run, and also a small bent tube. The outer end of the latter tube is placed in the mouth, and on blowing into the test tube the compression serves to close the valve and at the same time force the liquid through the siphon. As soon as the pressure is relieved, the liquid in the vessel will flow up through the opening in the test tube, and continue running off through the siphon. The shorter leg of the siphon extends to within a short distance of the ball valve, so as to limit the motion of the latter, and prevent it from striking the glass with a blow sufficiently hard to break it.



**STARTING DEVICE FOR SIPHONS.**

**RAG CARPET NEEDLE.**

The strips of cloth for making rag carpet are usually formed into a long string or rope by stitching the ends together with cotton or thread, a process not only tedious, but taking no little time. To obviate this, a little tool, or needle, can easily be made from a small piece of clock spring, the end of an old table



**RAG CARPET NEEDLE.**

knife, or any thin piece of steel. Make the needle about one inch and a half long, and either turn it up at right angles to form a foot, by heating it in the fire first, or drill a hole in one end for an ordinary wood screw. In the former case, a thumb-screw clamp