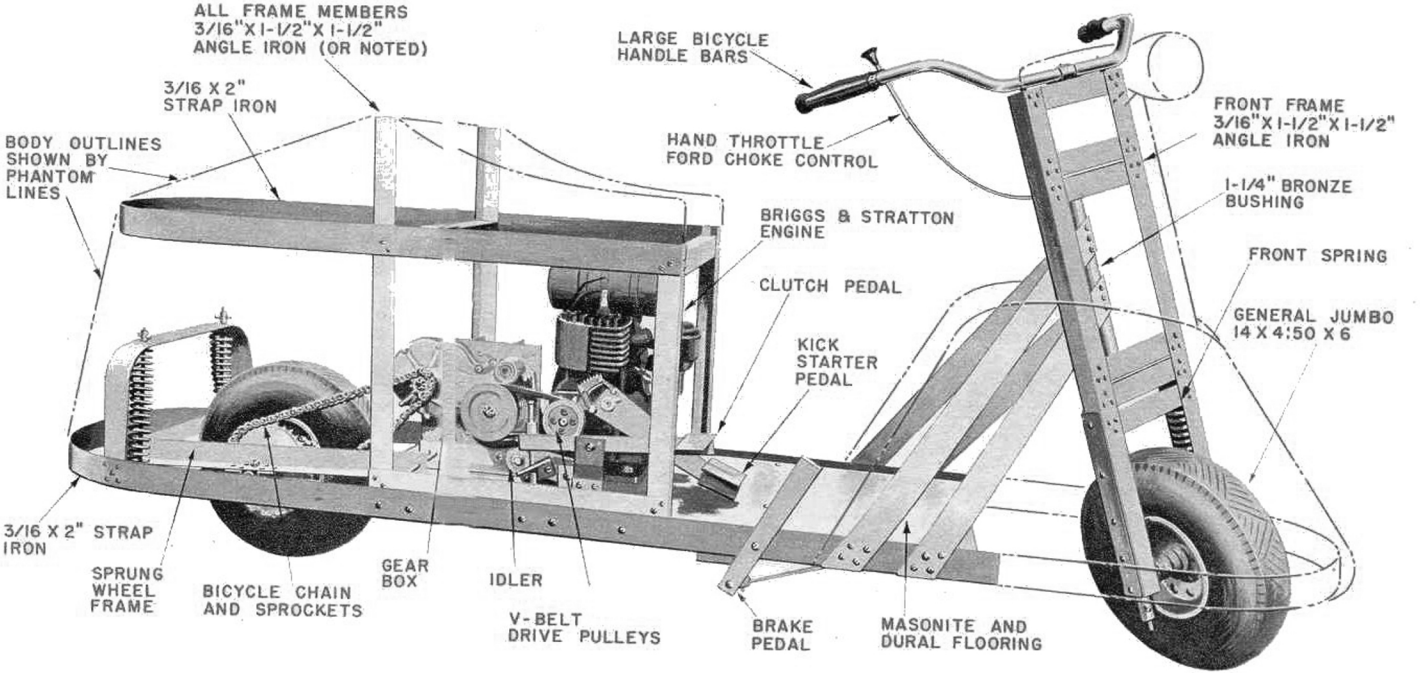

ALL FRAME MEMBERS
3/16"X1-1/2"X1-1/2"
ANGLE IRON (OR NOTED)
3/16 X 2"
STRAP IRON
BODY OUTLINES
SHOWN BY
PHANTOM
LINES
LARGE BICYCLE
HANDLE BARS
HAND THROTTLE
FORD CHOKE CONTROL
FRONT FRAME
3/16"X1-1/2"X1-1/2"
ANGLE IRON
1-1/4" BRONZE
BUSHING
BRIGGS & STRATTON
ENGINE
FRONT SPRING
CLUTCH PEDAL
GENERAL JUMBO
14 X 4:50 X 6
KICK
STARTER
PEDAL
3/16 X 2" STRAP
IRON
SPRUNG
WHEEL
FRAME
BICYCLE CHAIN
AND SPROCKETS
GEAR
BOX
IDLER
V-BELT
DRIVE PULLEYS
BRAKE
PEDAL
MASONITE AND
DURAL FLOORING

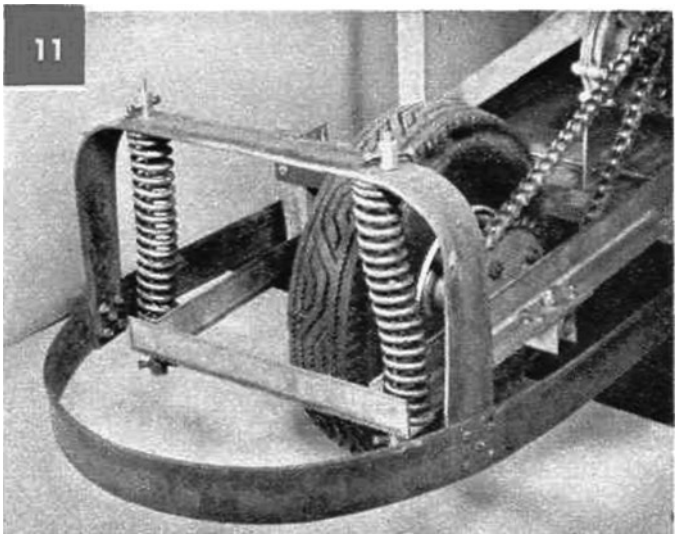
MI Super Scooter

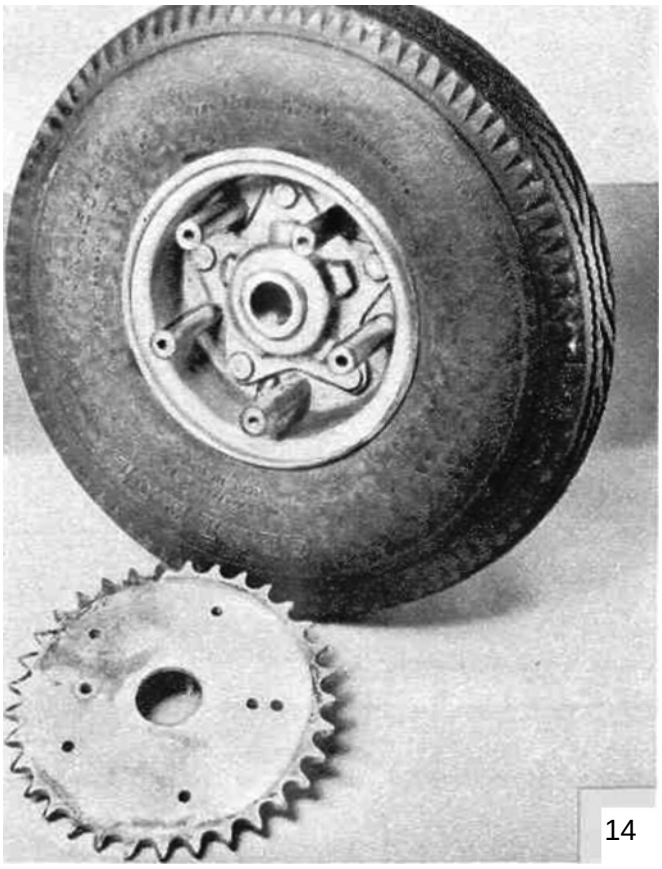
Part 2

WE'RE now ready to go ahead on the second and final lap in the building of Super Scooter. The first thing to do is to install the rear springs, Photo No. 11. These are of the compression type, 1-1/2 in. in diameter and, when extended, 9 in. long. They are held in place by two 11-in. lengths of 1/4-in. drill rod that pass through holes drilled in the rear-wheel frame and the 3/16x2-in. spring support. Collars made from 3/4-in. drill rod go over the ends of these spring retainers and are secured with set-screws.

Next, the rear-wheel assembly is undertaken. The wheel is a General Jumbo, 14x4:50x6, with ball-bearing rim. Also needed is a 33-tooth sprocket, obtainable at your local bicycle supply store. To bring the sprocket out the proper distance from the wheel hub, cut five spacers, 3-1/2 in. long, from 1/8-in. standard pipe. The wheel. spacers, and sprocket all appear in Photo No. 14. The brake drum and face plate are detailed in Fig. 5. Turn them down to their proper diameters on a lathe, using 1-in. boiler plate for the drum and 1/4-in. boiler plate for the face plate. For the

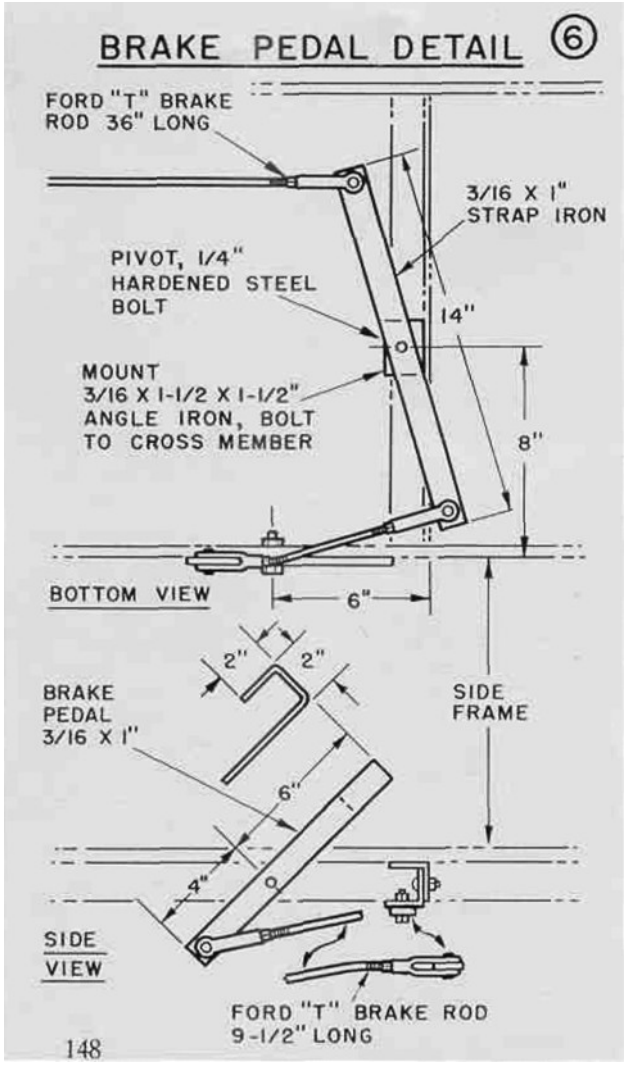
Compression-type springs, set between the spring support and the rear-wheel frame, ease your ride.





14

Five spacers, made from standard pipe, **are** used to keep the sprocket away from hub of **the** wheel.



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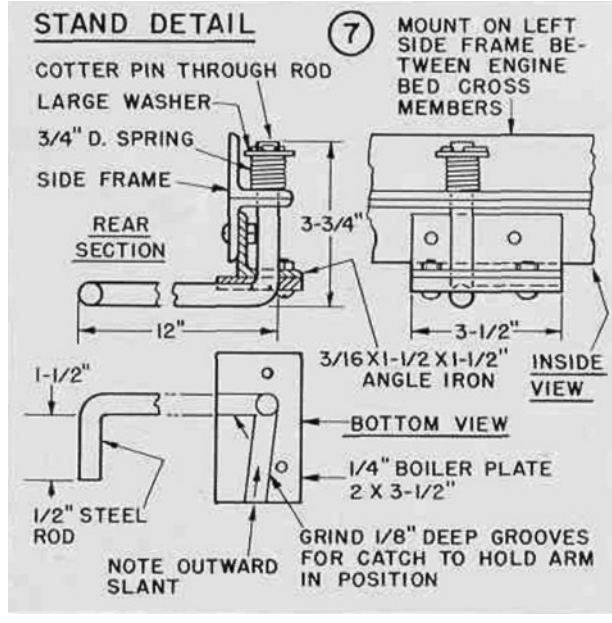
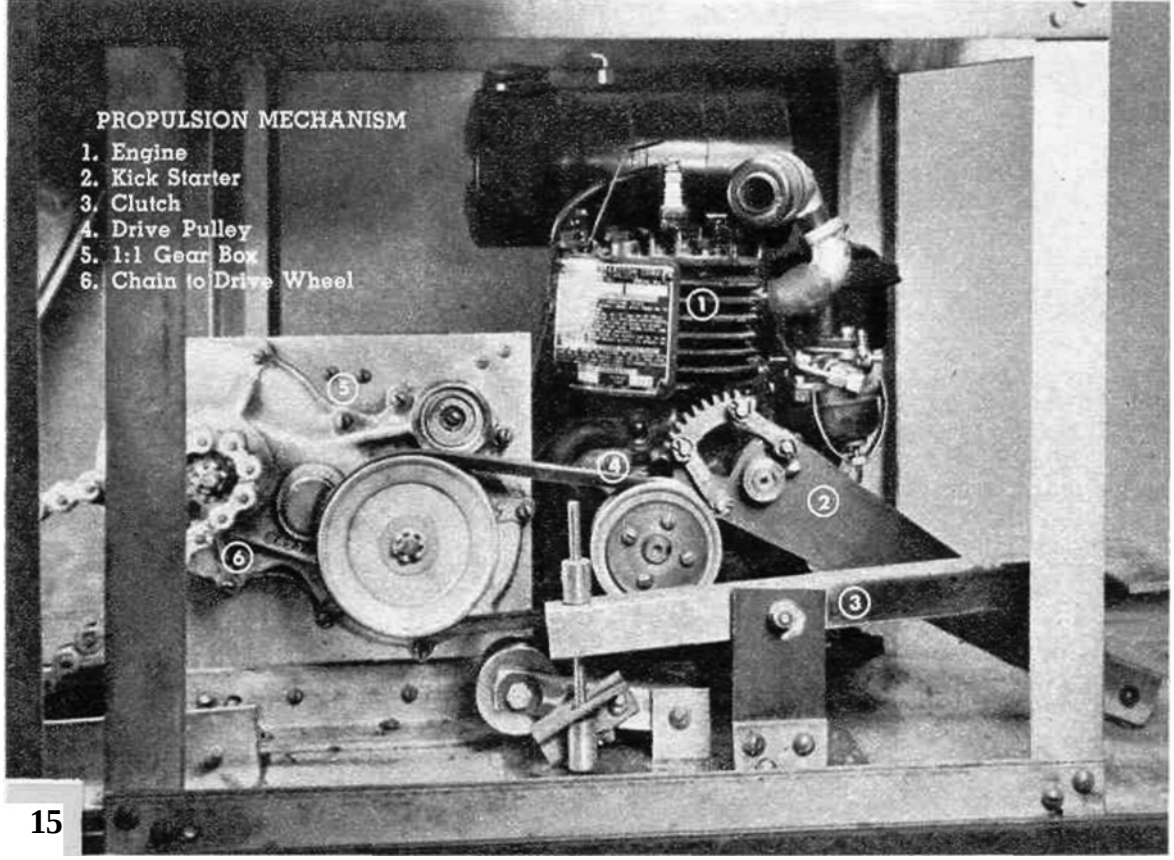
brake, use half of a 4-1/2-in. pipe clamp, adding the parts shown in Fig. 5 and riveting commercial brake lining to the inner surface. The component parts of the brake appear in Photo No. 12. Using Vix6-in. bolts, spacers, and nuts, the face plate and drums are installed on the wheel as in Photo No. 13. The brake itself is bolted to the frame. A piece of Ford Model-T brake rod connects the brake and a pivoted bar at the front of the scooter. This bar is in turn coupled with an activating foot pedal, Fig. 6.

The next item is the kick stand detailed in Fig. 7. It consists of a 1/2-in. steel rod, which is bent as shown and hung from the side frame with a spring, washer, and cotter pins, and a 1/4-in. plate with two grooves in it, which is suspended from the side frame by means of two short pieces of angle. The grooves provide "up" and "down" locking positions for the stand and the spring serves to hold the stand in whichever locking positions you desire.

Now is the time to decide what type of drive you are going to use. Two alternatives are given. The first. Photo No. 15, is the one used in the original scooter. The second, Fig. 8, is perhaps simpler and easier to install.

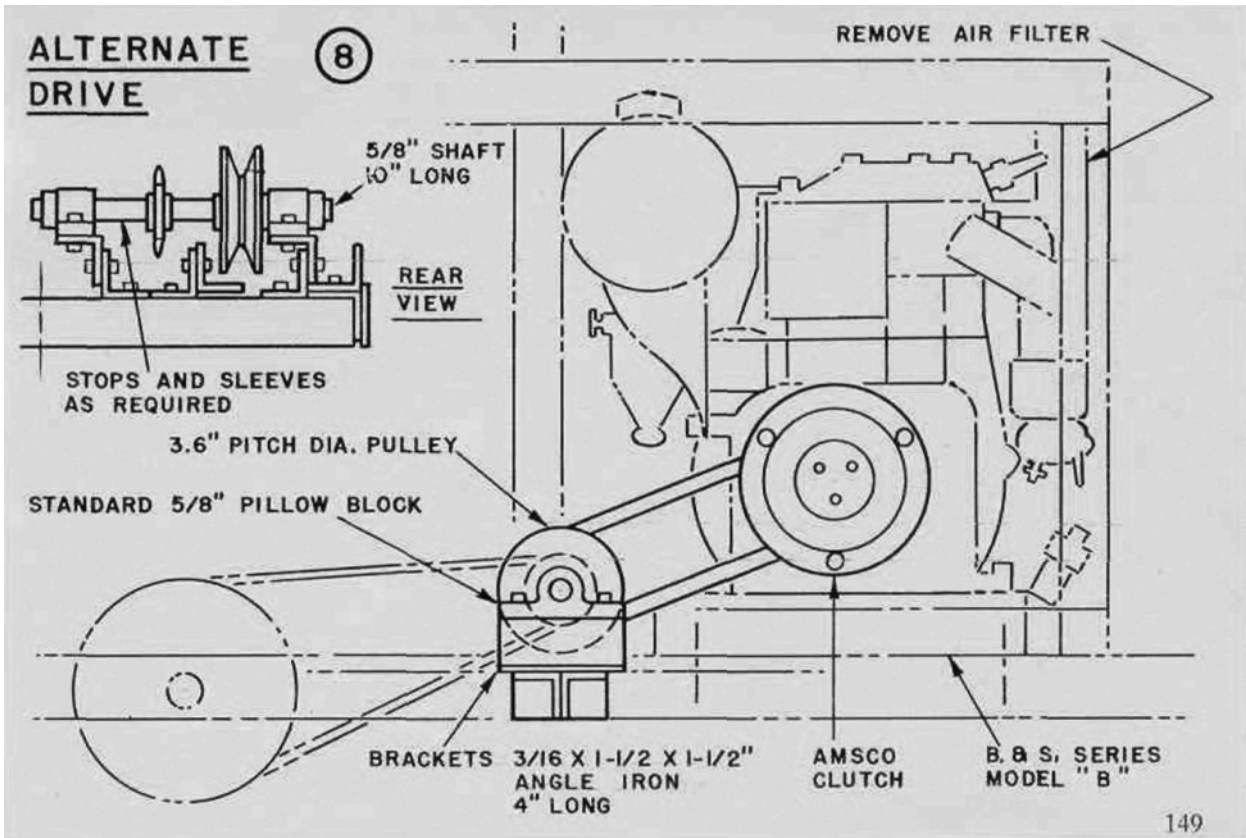
In the first installation, a 1:1 war-surplus gear box is used to change over from belt to chain drive. The sprocket shaft from this box must be placed in direct vertical line with the pivot point of the rear-wheel frame so the chain drive will move correctly with the frame. The sprocket is an eight-tooth affair. On the other shaft of the gear box goes a 4-in. pulley for a 1/2-in. V-belt. A 3-1/2-in. pulley is put on the engine shaft. The idler-type clutch is detailed in Fig. 9. A 2-in. polished wheel is mounted in a pivoted yoke and the whole bolted to the flooring in such a manner that.





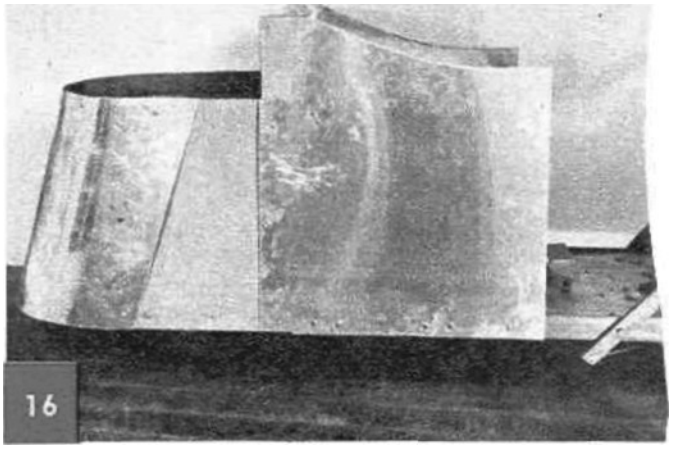
when the wheel is raised by depressing the foot pedal, the V-belt is tightened about the two pulleys. Fig. 10 shows complete details of the kick starter that was added to facilitate starting the Briggs & Stratton Series "N" engine. The gear can be secured from the Cushman Motor Works, Lincoln, Neb.

In the second installation, a larger en-

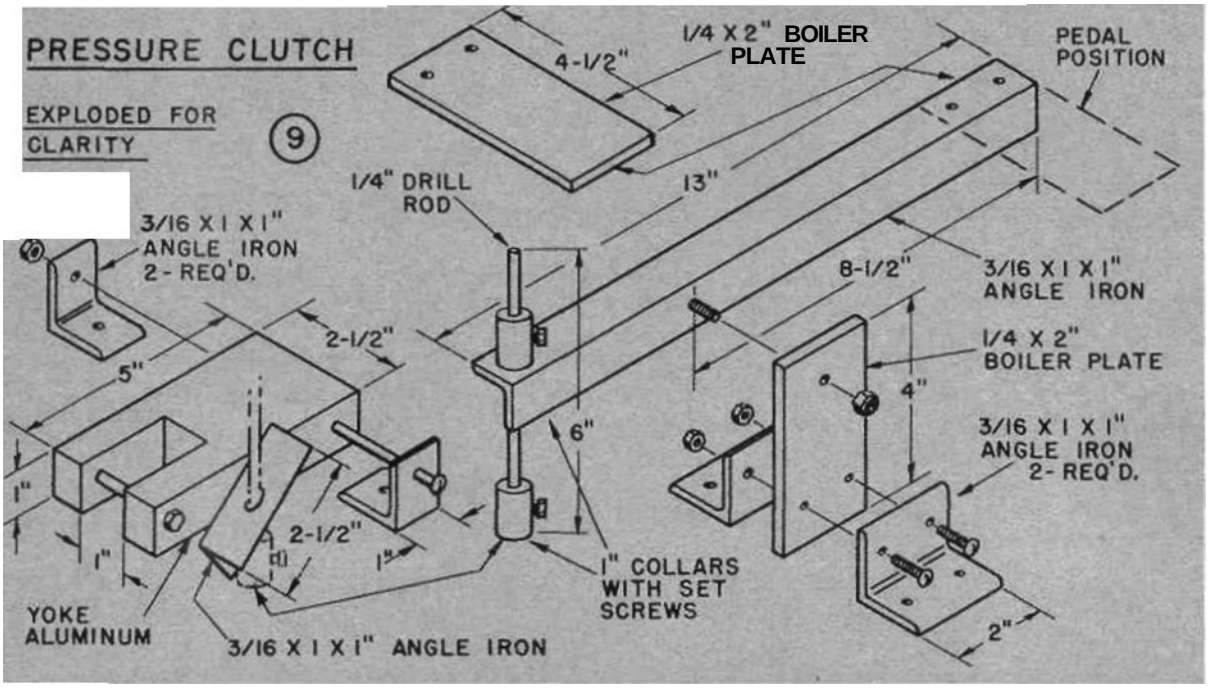


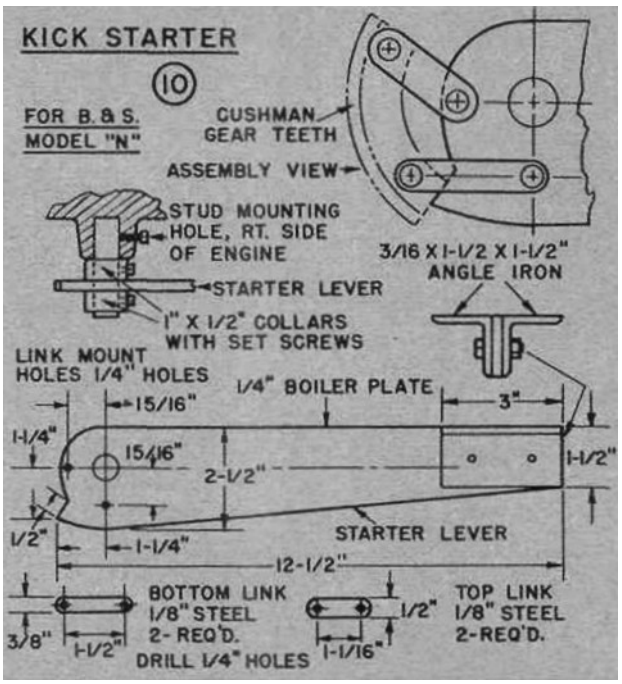
gine—the Briggs & Stratton Series "B"—is shown. Mounted directly on the drive shaft, is an AMSCO centrifugal clutch, manufactured by the American Motor Scooter Co., 628 W. Lake Street, Chicago, 111. Directly above the pivot point of the rear-wheel frame is a 5/8-in. shaft that is supported by two pillow blocks. On this shaft are a 3.6-in. pitch diameter "B section pulley and an eight-tooth sprocket. A "B"-section V-belt couples the pulley on the clutch and the one on the shaft and a chain connects the sprocket on the shaft and the one on the drive wheel.

Sizes of the various pieces making up



Here's how the body looks with the Masonite and the first three sheets of aluminum put in place.





the body are given in Fig. 11. First cut two seat sides from 1-in. pine and one 7xl7-in. back support from 1/2-in. plywood. The luggage flat, also of plywood, rests on the rear spring support and the wall at its forward end is bolted to the frame uprights. Extending from the front edges of the forward frame uprights to the points where the strap-iron tail frames start to curve in, are two pieces of 1/8-in. Masonite, bolted to the framework. The back of the scooter is covered with a single sheet of 1/16-in. aluminum. Two more pieces of aluminum are placed over the Masonite and seat sides. Photo No. 16 shows the progress of the covering at this point. The Masonite shown exposed in this picture is next covered with aluminum. Now cut out the luggage-compartment top and form it over a piece of plywood that is shaped to the contour of the [Continued on page 168]

MI Super Scooter

[Continued from page 150]

back top edge of the scooter frame. Two butt hinges hold this cover in place. Next, make the seat from hardwood or plywood, pad it with 3 in. of Kapok, and cover it with leatherette. The back and arms of the seat are likewise padded and covered.

At the front end of the scooter, a piece of 3/16 x 2-in. strap iron, 58 in. long is bent into a "U" shape on a 7-in. radius and bolted to the projecting ends of the 2-in. strap iron that covers the main frame. A piece of aluminum for the left front cover section is now bolted to the forward strut and bent around and bolted to the strap iron, Photo No. 17. Using the lower edge of the strap iron as a guide, scribe a line on the aluminum; then cut away the excess material. Install an identical piece on the right side, overlapping the left covering piece. Secure it in place with a bolt passing through both coverings and the strap iron. Draw a line down the exact center of the front covering and drill holes at 4-in. intervals; then put machine screws through the two coverings, put on bolts, and tighten them home. An additional segment is added at the back end of each of these pieces to cover the rear pair of struts. A splash pan, if desired, is now installed. It is triangular in shape to fit the opening framed by the two forward struts and the flooring and has three flanges that bolt to the struts and the underside of the flooring.

Three wooden frames are next cut to shape, as shown in Fig. 11, and bolted to the front-end assembly. An aluminum sheet is fastened to these frames and the upright angle irons (see Photo No. 18).

The hand throttle is a 6-ft. Ford choke-control cable. The control end is fastened, with a hose clamp, to the righthand handlebar. The cable is then run down under the scooter and back up through a hole drilled at a point directly below the engine's throttle control, to which the free end is connected. Install a six-volt bicycle spotlight and a small taillight. Power for the lights comes from a six-volt heavy-duty bicycle battery carried in the luggage compartment. A simple switch on the battery turns on both lights.

Now the scooter is ready for painting. The original was finished in fire-engine red. Rubber matting, cut to fit the floor of the scooter, adds a final professional touch. A rubber heel, fastened to the floor where the kick starter hits prevents damage.

If you're going to use Super Scooter on public highways, you'll have to register it with your state motor-vehicle commission and install license plates. A length of flat bar bolted to the scooter acts as a license-plate bracket. •