a working model and it was an instant sucess. Really though, it couldn't have been anything but a success, as it was so very simple in construction.

This first bazooka consisted of nothing more than an aluminum tube six feet long and 3/4 to 1 inch in diameter, a motorcycle battery (power pack), a light switch (trigger), and the necessary wiring and electrical connections. These parts were all taped together for easy assembly and disassembly. The assembly goes as follows: The wiring goes from the rocket shell to the switch. From here the wiring then goes to the power pack (set on ground when firing) and then back to the rocket shell. To fire this bazooka the firer simply has to sight his target and pull the trigger. The shell will then speed out of the tube at amazing velocities and then onward to the target.

The next refinement on the bazooka was developed by another friend. This improvement was one that would prove to be very important at a later time. This consisted of placing the battery pack in a canvas satchel. The motorcycle battery was replaced with a 6 volt lantern battery which was much less expensive, about $2.50. Now a firer simply slings the satchel over his shoulder and he has a completely portable weapon.

The final improvements on the bazooka came when I took the other designs and added some ideas of my own.

First, I redesigned the battery pack which was rather bulky and expensive. To improve it, I took four alkaline penlight cells and wired them in series, thus producing the needed six volt current. To make this battery pack I found a length of tubing slightly larger in diameter than the batteries. Next I cut the tubing slightly shorter than the lengthwise measurement of the batteries. (see diagram) Finally I took two plastic caps, placed the lead wires in them and filled the caps with a layer of solder. These caps were then placed firmly on the battery tube completing the unit. The next improvement was the placement of handles on the bazooka tube. These handles proved invaluable as they aided not only in holding the bazooka, but they also helped to improve the firer's accuracy. When placing the handles on the bazooka tube, I divided the tube into two foot measurements and taped the handles in place. (see diagram). When taping any of the parts, black electrical tape or friction tape should be used.

My final improvements on the bazooka were the adaption of a flash guard, a loading breech and an open sight. The flash guard was nothing more than a set of slots cut into the forward end of the aluminum tube. These are used to prevent the rocket flash from being seen, thus improving concealment. The loading breech was nothing more than the opposite end of the bazooka tube with the top end removed for a distance of six inches. This is used to hold the trailing fins of the rocket shell steady during firing. This causes the shell to travel much straighter out of the tube. Finally, the open sight was constructed in this way: a thin piece of sheet metal 1/4" wide is bent around the end of the bazooka tube. Then the additional metal pointing outward from the tube is bolted solid and this is used as a sight. (For the listed improvements see diagram).

Now that the improvements were made, I had to put the bazooka together. The final assembly goes as follows: First the bazooka tube is outfitted with a flash guard, loading breech and open sight. Secondly the trigger switch is wired and taped in place along with the battery pack. Next the handles are firmly taped in place and then covered with friction tape to insure a good grip. Lastly the wire leads at the end of the bazooka tube are fitted with alligator clips. The bazooka is then ready for firing. (see diagram)

Once you have completed these assemblies,your bazooka or "Super Bazooka" as I call it, will be finished. This weapon is very powerful as it is very similar to a gun in range and velocity

It will take several dozen firings before you become familiar with the bazooka and are able to fire it quickly and accurately. It took me several weeks of firings before I could use it with any proficiency. Among some of the targets I have hit accurately are tree trunks (within a six inch radius), two foot diameter targets (within a one foot radius), and most recently fence posts (within a six inch diameter). As far as ranges are concerned, my bazooka has a range of somewhere between 100 yards (used in target shooting) and 1,000 feet (maximum arc of fire).

Of course if you plan to fire your bazooka you will need to know how to make up rocket shells for it. These shells are easy to make and generally inexpensive, although my designs are not the only ones you can use. To make these shells you will need a few essential items. They are; an Estes "T" rocket motor, 3 - 1/4"X1/16"X9" balsa fins, a nose cone and an Estes solar igniter. In order to construct the rocket you do as follows.

First, you glue the fins onto the rocket motor so that they are evenly spaced. Next, glue the nose cone onto the front end of the motor. Lastly, put the igniter into the nozzle of the rocket motor as stated in the igniter instructions. Now the fins and nose cone are sanded smooth and the bazooka shell is ready. (see diagram) These shells can then be stored for later use or fired immediately.

You can also use other types and sizes of rocket motors like the larger Estes rocket motors, Astron or 'D', by increasing the diameter of your bazooka tube. You can even use a homemade or modified rocket. These are not recommended though, as they can be very dangerous. An example of a motor modification is taking the Estes rocket engine and boring carefully through the propellant. Upon firing, all of the propellant burns at one time producing an unbelieveable amount of thrust.

Other methods of altering your rocket shells are equiping them with warheads or similar explosive devices. The simplest way to accomplish this is to fill the front end of the rocket motor with black powder, matchheads, broken glass or anything your heart desires. You then glue or epoxy (reccommended) the nose cone out of some material other than balsa. I have found that plastic, metal, and auto body filler work best. These types of nose cones work best against walls, targets and even people, as the penetration with them is very good. I have used this same kind of nose cone to pierce 1/2 " plaster board and it is extremely hard. The last modification to the design of the completed rocket, is employment of an impact ignition system to detonate the rocket's warhead. These shells will penetrate window glass, windsheilds, walls and even people at considerable distance.

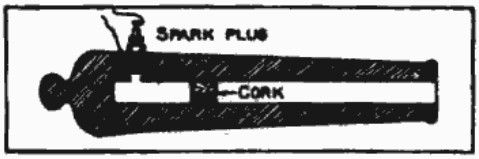
You can start fires (matchhead warheads) and detonate explosives with it. The main advantage to causing this kind of mayhem with the bazooka are that the firer can remain concealed (many firing places are within 1000 ft. radius) and the firer can easily carry and use the bazooka.

In closing, I would like to add these last few points. You should treat your bazooka with respect as it is capable of devastating damage. Most likely it is illegal everywhere in the U.S.

BOY MECHANIC VOL. 1

A Gas Cannon

If you have a small cannon with a bore of 1 or 1½ in., bore out the fuse hole large enough to tap and fit in a small sized spark plug such as used on a gasoline engine. Fill the cannon with gas from a gas jet and then push a



Gas Cannon Loaded

cork in the bore close up to the spark plug. Connect one of the wires from a battery to a spark coil and then to the spark plug. Attach the other wire to the cannon near the spark plug. Turn the switch to make a spark and a loud report will follow.