This invention relates to improvements in domestic sprinkler systems. More especially it has to do with an automatic system particularly designed for home use and so fabricated and supplied that the ordinary house dweller can readily install it.

The protective value and effectiveness of automatic sprinkler systems have long been recognized and such systems are regularly installed in factories, office buildings, hotels, churches, club houses and other buildings of appreciable size. Large corporations have grown up whose business is primarily concerned with the installation of such systems in these very sizable risks. The system as generally known involves a large footage of pipes of graduated sizes, with numerous T's, elbows, couplings, unions, pipe hangers, sprinkler heads, dry pipe valves, alarm valves, gate valves and many other devices and incidental fittings. The pipe and fittings are sent to the risk and a corps of men then proceed to cut the pipe into proper lengths, thread it, install it and attach the various valves and fittings. These men are skilled workmen and so a very appreciable cost of the finished systems now in common use is the labor cost of installation. If a home owner desires such a system, even on a much smaller scale, the cost of having it installed in his house is well-nigh prohibitive, especially when all he needs is a few sprinkler heads arranged to protect some small but particularly dangerous hazard.

For example, the space under the cellar stairs lends itself most conveniently to the temporary storage of waste, and it is usually occupied by barrels and boxes of trash, to say nothing of the dangerous accumulation of old newspapers which are likely at any time to cause spontaneous combustion. Or the attic, around the chimney, is also a favorite collecting spot for things which may prove highly inflammable, especially if the chimney itself becomes defective as chimneys are wont to do. And in the modern home where the family automobile occupies a room of its own in the basement the gradual accumulation of grease and oil, to say nothing of discarded cleaning cloths, results in a fire hazard that can not be lightly disregarded even though supposedly fire-proof walls and barriers are provided. To install the usual type of automatic sprinkler system in these all too common places of fire danger is, as before stated, an expensive undertaking and one usually deemed a luxury that can not be afforded.

It is the principal object of this invention to provide a system that can be purchased by the home owner at a small cost and which he can install himself with hardly more than an ordinary monkey wrench and hammer as his tools. It is a feature of the system that parts or sections can be assembled at the place of manufacture and yet this system as a whole can be shipped in a generally dismantled but compact condition to the ultimate user. It is a further feature that each such factory assembled section is so arranged and constructed that it can be easily, but only correctly, connected to another similar section or to a different section which comprises a novel fitting that constitutes a shut-off valve, an alarm valve and a test valve all in one unit. Such a system can be unpacked and quickly installed without the cost of skilled labor; it is adaptable for protecting spaces of varying extent and location and because of this and its "fool-proof" features, the inexperienced house dweller need not worry about the fuss and bother and high cost of installation. For a modest expenditure with the simple equipment herein disclosed he can effectively protect his home and dear ones against the greatest fire menace in his house.

The best mode in which I have contemplated applying the principles of my invention is shown in the accompanying drawings but these are to be taken as merely illustrative and it is intended to cover by suitable expression in the appended claims whatever features of patentable novelty exist in the invention disclosed.

In the accompanying drawings:
- Figure 1 is a perspective showing a typical installation of a system embodying the present invention;
- Figure 2 is a somewhat diagrammatic showing of a system;
- Figure 3 is a side elevation of the valve unit with the detachable cover removed;
- Figure 4 is a plan of the unit with the cover and top nut removed;
- Figure 5 is another elevation of this unit on line 5-5 of Figure 4;
- Figure 6 is a view showing the section of the system which connects with the valve unit and another section attached thereto;
- Figure 7 is an elevation of one of the compression fittings with sprinkler attached and a cap nut for closing the end; and
- Figure 8 is a view in section showing a plug for closing the end of a pipe.

Referring more particularly to the drawings,
Figure 1 suggests how the system might be installed in a modern cellar, part of which serves as a garage. The system is connected to the domestic water supply pipe, preferably near the 5 entrance to the garage. An ordinary 7 fitting can be inserted in this line and a nipple added, which the valve unit 5 may be attached by simply threading it on the nipple and turning it until tight.

The inlet end of this unit is provided with integral threads to receive the nipple 4, and its outlet has a threaded stem 7 adapted to receive a so-called section of the system. This particular section has a piece of bendable pipe 8 permanently 10 connected at one end to a compression fitting 9 either by soldering or brazing or the like. A coupling nut 10 is slipped on this piece of pipe and then its free end 8a is flared to fit the tapered seat 7a on the exposed stem of the valve unit. The section is thus fabricated at the place of manufacture and all the house owner has to do is place the flared end 8a of the pipe against the tapered seat 7a on the valve unit, engage the nut 10 with the threads on the stem and tighten the 25 nut with a monkey wrench.

The compression fitting 9 just described has another pipe 11 permanently connected to it on one end of it and still other sections 12 as near the other end. The stem and the pipe last mentioned are of different size from the piece of pipe 8 which connects with the valve unit, thus insuring that the proper piece of pipe leading from the fitting will be secured to the unit.

The remainder of the system comprises one or more sections each of which consists of a length of bendable metal pipe 11, a compression fitting 13 with inserted automatic sprinkler head 14 and a compression nut 15. One end of the pipe 11 is permanently secured in the fitting and its other end 16 if the nut 15 has been slipped over it. This, it is to be understood, is all done before the section leaves the manufacturer. When received by the ultimate user, he has only to place the flared end 1a of the pipe on the seat 12 of the fitting herebefore described and set up the compression nut 15. The pipe is then bent to bring the sprinkler head where desired, the latter being positioned either above the fitting as shown at A in Figure 2 or pendant from it as at B in Figure 2. Another section is now attached to this fitting 13, and still other sections 12 as near the outer end 16 of the pipe 11 as may be desired, to secure the sprinkler 14. If the pipe 11 is bendable, the couplings easily made and because of the difference in size of some of the connections, the system can only be put together in the proper manner. All this makes it feasible and practicable for the home owner to protect his family and property from fire hazards at a very moderate expense.

I claim:
1. Distributing piping for a domestic sprinkler installation comprising, in combination, a T-co coupling with an inlet adapted to be connected to a domestic water supply and having two outlets of different size from said inlet; a piece of bendable pipe attached to one outlet; a coupling nut on said piece of pipe at the end remote from the T-coupling; and a series of connected sections comprising a part of the pipe to the other outlet of said T-coupling; each of said sections comprising a piece of bendable pipe, a fitting at one end thereof, a coupling nut at the other end thereof; each fitting having an opening with external threads adapted to cooperate with a coupling nut to connect said fitting to an adjacent piece of bendable pipe, and an opening adapted to receive a sprinkler head; said
T-coupling and said sections being so organized as to be assembled in a predetermined sequence to form the said loop.

2. Distributing piping for a domestic sprinkler installation comprising, in combination, a T-coupling having an inlet adapted to be connected to a domestic water supply, and having two-outlets of a different size from said inlet with external threads on one of them; and means constituting a distributing loop between said outlets; said means comprising a piece of bendable pipe attached to one outlet of the T-coupling; a coupling nut on said piece of pipe at the end remote from the T-coupling; a fitting having an externally threaded stem engaged by said coupling nut to connect said piece of pipe and fitting together, an opening adapted to receive a sprinkler head, and another opening; another piece of bendable pipe attached to said other outlet; and a coupling nut on said other piece of pipe at the remote end from said fitting adapted to engage the external threads on the T-coupling and thereby connect the other bendable pipe thereto and complete the loop.

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