

A Homemade Miniature Camera

Few can duplicate this effort but it is interesting to know what mechanically-minded photographer did with tools

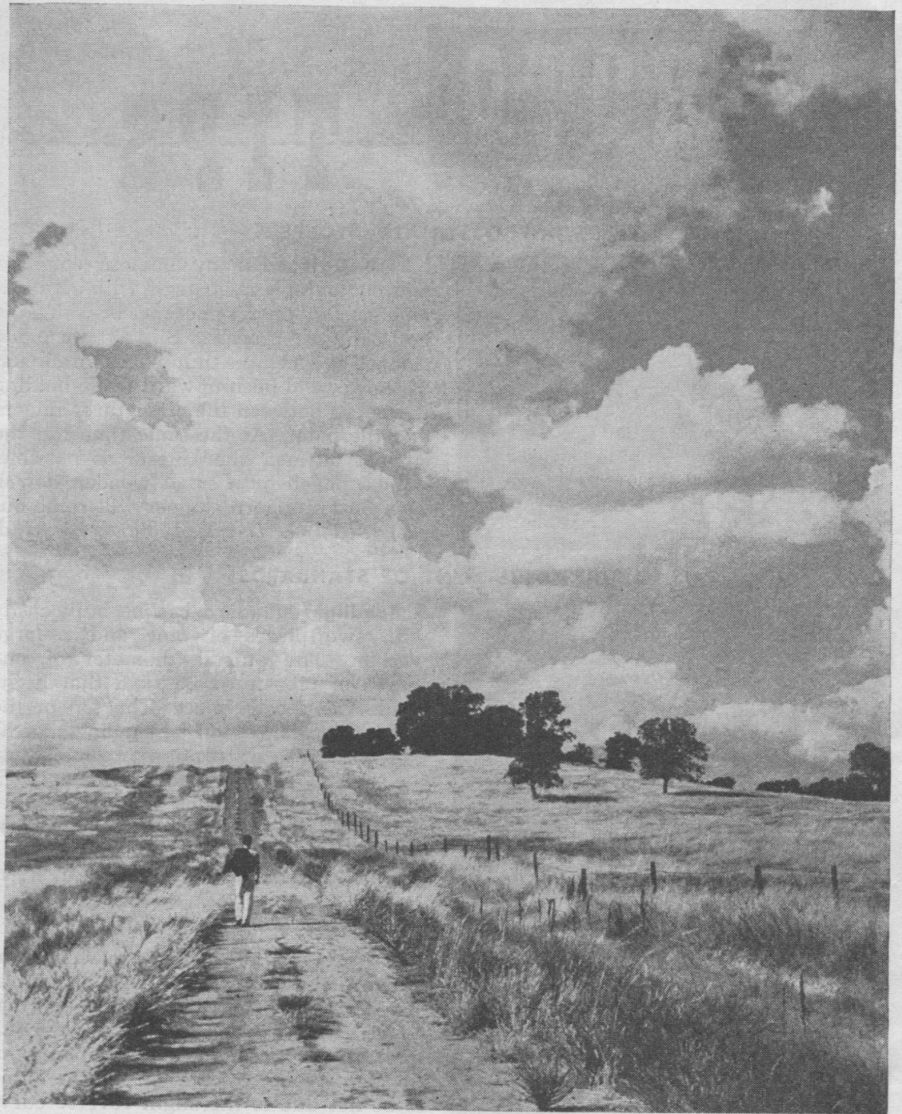
By PHILIP DUCLOS

EVERY photographer might not be able to work with tools, but it would probably interest those who can that if they cannot obtain or afford to buy that dream camera they can assemble a reasonably accurate facsimile of it. Requirements are: skill, tools or access to a machine shop, and a small expenditure—in my case I spent only slightly over two dollars.

The only motorized shop equipment I have is a grinder, a drill press, and a small lathe. But this part of the work could be taken to a machinist who should be able to produce what you want.

I picked up the shutter and lenses second-hand from old disabled cameras which I bought just for the parts. I cast the camera body myself—it's a simple matter to melt aluminum. Two ordinary gasoline blow-torches and a small iron pot to hold the metal are all that is needed. Some kind of shield should be used to prevent heat from escaping while the aluminum is being melted; I used an old one-gallon paint can with a hole punched in each side through which to direct the flames. This made an improvised furnace.

Here is the camera's life history: Several factors prompted the design. I wanted compactness without loss of negative size; a simple, positive method of focusing; and economy of cost and operation. That made me settle on half 120 as the film size. First though, I needed a lens and shutter around which to build the camera.



This country road scene is an example of the excellent performance of the homemade camera shown below. On an 11x14 enlargement the blades of grass show up sharply.

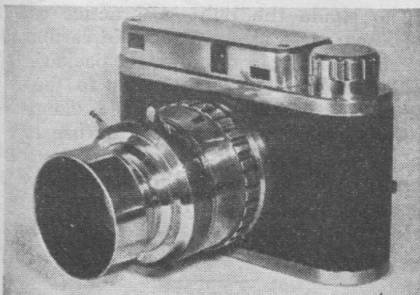
After browsing through several second-hand stores I stumbled across an ancient Premo filmpack camera. The generous supply of holes in the bellows made it obvious that its picture-taking days were over. The lens, which had a focal length of five or six inches, did not suit my needs but the shutter was in good condition and just what I wanted. I bought the camera for fifty cents.

I knew the lens of the ordinary, much-derided box camera—especially some of the old ones—to be capable of really fine work. The reason they never accom-

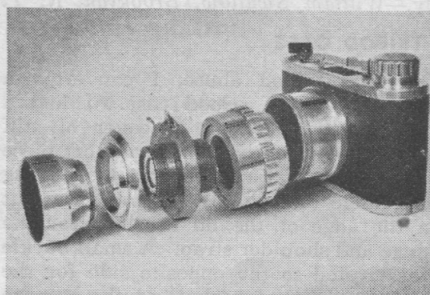
plished much was because of their fixed position. So I rounded up two battered Eastman 116 box cameras at twenty-five cents each. I installed their lenses in the Premo shutter and thereby increased their *f* value enormously, at the same time decreasing the focal length to about 2½ inches. This covers the half 120 film nicely.

By careful inspection of expensive cameras at a local store I discovered that a coupled rangefinder is no more than two small mirrors or prisms set at an angle—

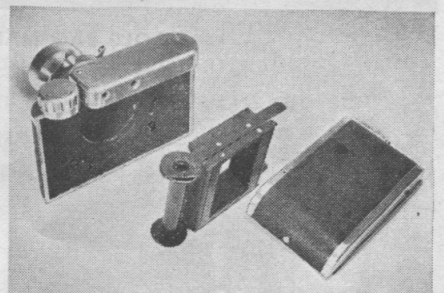
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Camera designed and made by the author has professional look, takes 120 film.



Breakdown of lens assembly shows lens shade, shutter, and aluminum fittings.



Camera back opened and film carrier removed. Casting covers rangefinder.

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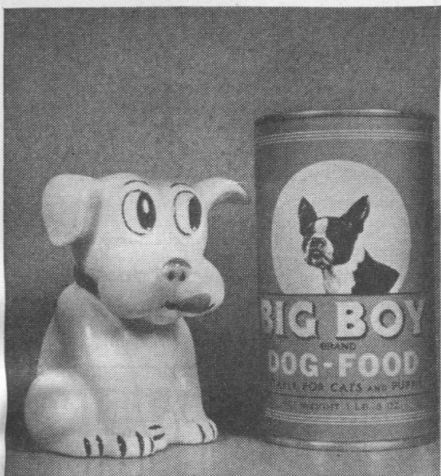
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one stationary, one movable by rods and levers from the lens focusing mechanism.

Now I was able to start construction. I made wooden patterns, cast the aluminum, and finally did the machine work.

By mounting the shutter unit in a barrel equipped with coarse pitch threads, I could focus by turning the barrel to right or left. The viewfinder of the old Premo furnished the necessary mirrors for the rangefinder after they were cut to proper size.

To find a negative lens of correct focal




Still life shows quality of lens combination working as close as 18 inches.

length for the finder I finally had to resort to buying a *new* Baby Brownie Special for \$1.25 which, ironically enough, cost more than the lens and shutter of the homemade job.

I made the lens shade an integral part of the camera; by twisting it to right or left it opens the iris diaphragm—and that is handy too as there's no fumbling around for a tiny half-hidden lever to move. The shade is easily unscrewed to insert or remove filters.

I covered the camera body with leather from a woman's discarded purse.

The performance of this camera has been a source of wonder and pleasure to me. I won a cash prize with it in the Oregon State Highway photography contest, and many first places in local camera club contests. It is small, light, easy to handle, and it can focus as close as eighteen inches. Although the lens will open from $f\ 32$ to $f\ 3.5$ I find that $f\ 4.5$ is the largest aperture at which it can be used and still give clear pictures—but I suppose one can't expect too much from a couple of old box camera lenses!—

J. Ghislain Lootens announces the opening of fall classes at 55 Hanson Place, Brooklyn, N. Y., as follows: "Fundamentals of Photography" will meet Monday evenings, beginning October 1, for 15 weekly sessions. "Advanced Technique" follows the same schedule Tuesday evenings. Classes in portraiture and retouching begin Friday evening, Oct. 5.

September, 1945