

3. A NEW TOP-LOADING PLANT PRESS FOR OFF-SITE SPECIMEN PRESSING

Correct alignment of specimen folders and drying papers when pressing plants reduces specimen damage caused by specimen-folder shift and increases the functional life span of specimen folders and drying papers through a reduction of friction and edge-wear. It is, furthermore, often difficult to close a standard strap-type plant press without causing folder shift especially when uneven plant specimens are pressed. The potential for specimen damage is increased with the insertion of additional specimens, windy conditions and the necessity for changing drying papers. The procedure for pressing plants with a standard strap-type plant press can be laborious and often frustrating.

The plant press shown in Figures 5 and 6 minimizes specimen-folder shift, even with bulky specimens and is easy to use. The features (Figure 5) include:

- 1, a top which is hinged by means of two nuts and bolts (item 7) for loading and access to plant specimens while in the press;
- 2, a steel frame (item 1) which provides alignment guides for correct alignment of specimen folders and drying paper;
- 3, quick pressure release with the spring release bar (item 6) and release mechanism (item 5);

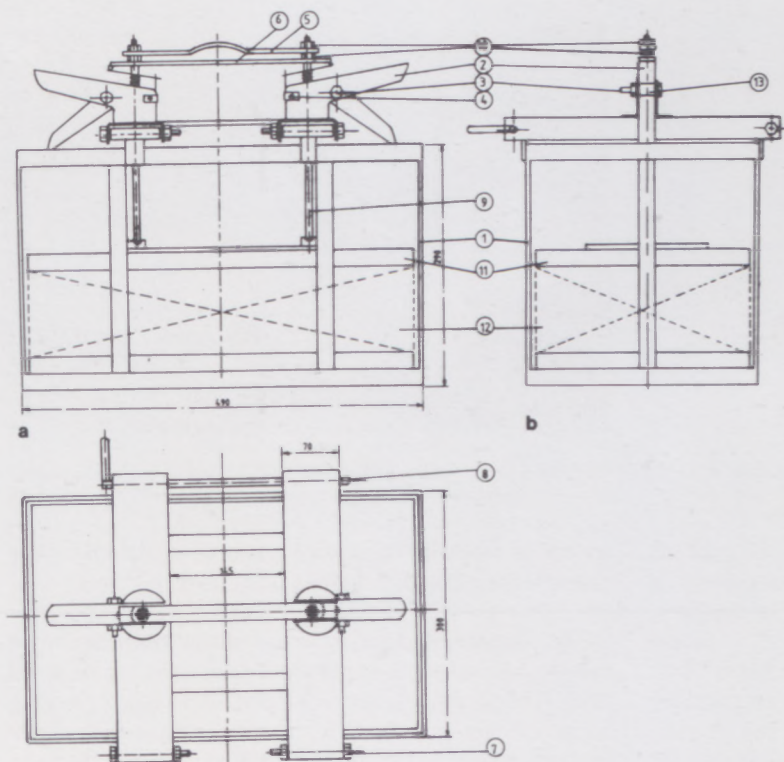
- 4, rapid opening and closing of the hinged top with locking pin (item 8); and

- 5, a simple and effective pressure mechanism, using modified silicone caulking guns (item 2).

The double pressure action provided by the two caulking guns and the swivel action of the pressure plate (item 11) allows for even pressure to be applied to uneven specimens. Pressure is applied by squeezing the caulking gun handles. In use, only two fingers need be used on each handle to exert a pressure of about 80 kg on the plant specimens. Pressures greater than 80 kg could damage plant specimens.

The mass of the empty top-loading plant press is about 12 kg which inhibits movement of the press in the vehicle but can preclude on-site use. The use of a portable press (Panagos & Westfall 1989a) is recommended whenever collecting outside the immediate vicinity of the collector's vehicle. Specimen folder transfer and drying paper insertion are extremely simple and quick when a portable press is used.

String or ribbon can be draped inside the top-loading plant press prior to loading (Figure 6). The specimen



MATERIALS

ITEM NO.	QUANTITY	DESCRIPTION	REMARKS
1.	1	Frame - Soft steel	20x5mm
2.	2	Silicone caulking gun	2mm
3.	2	Reinforced by low C steel	M-6 bolt
4.	2	Reinforced	1mm
5.	1	Release mechanism	20x5mm
6.	1	Spring release	20x5mm
7.	2	Bolt and nut	M-8
8.	1	Locking pin	Ø8
9.	2	Pressure rod	Ø8
10.	4	Lock nuts	M-8
11.	2	Pressure plate - wood	470x280x20
12.		Plant material and drying paper	
13.	2	Reinforcing rod	Ø10

FIGURE 5.—Plan of top-loading plant press with materials required (a) side view; (b) end view and (c) top view.

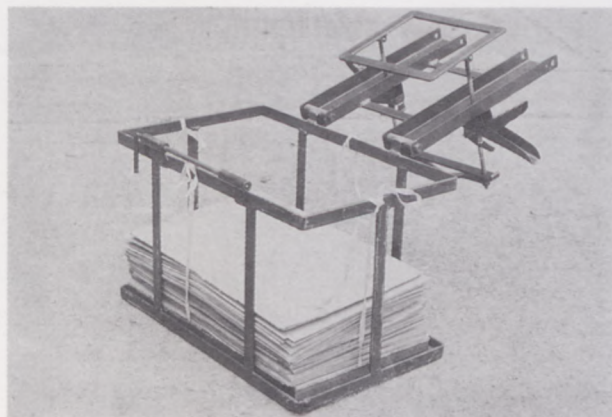


FIGURE 6.—Open top-loading plant press showing draped ribbons for batch removal of plant specimens.

folders can then be tied and removed in a batch when required, minimizing specimen handling and obviating the need to remove the top-loading plant press from the vehicle.

Use of the top-loading plant press can reduce information loss through specimen damage and time spent on pressing specimens, as well as increase the life span of specimen folders and drying paper. It can even be used in windy conditions.

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