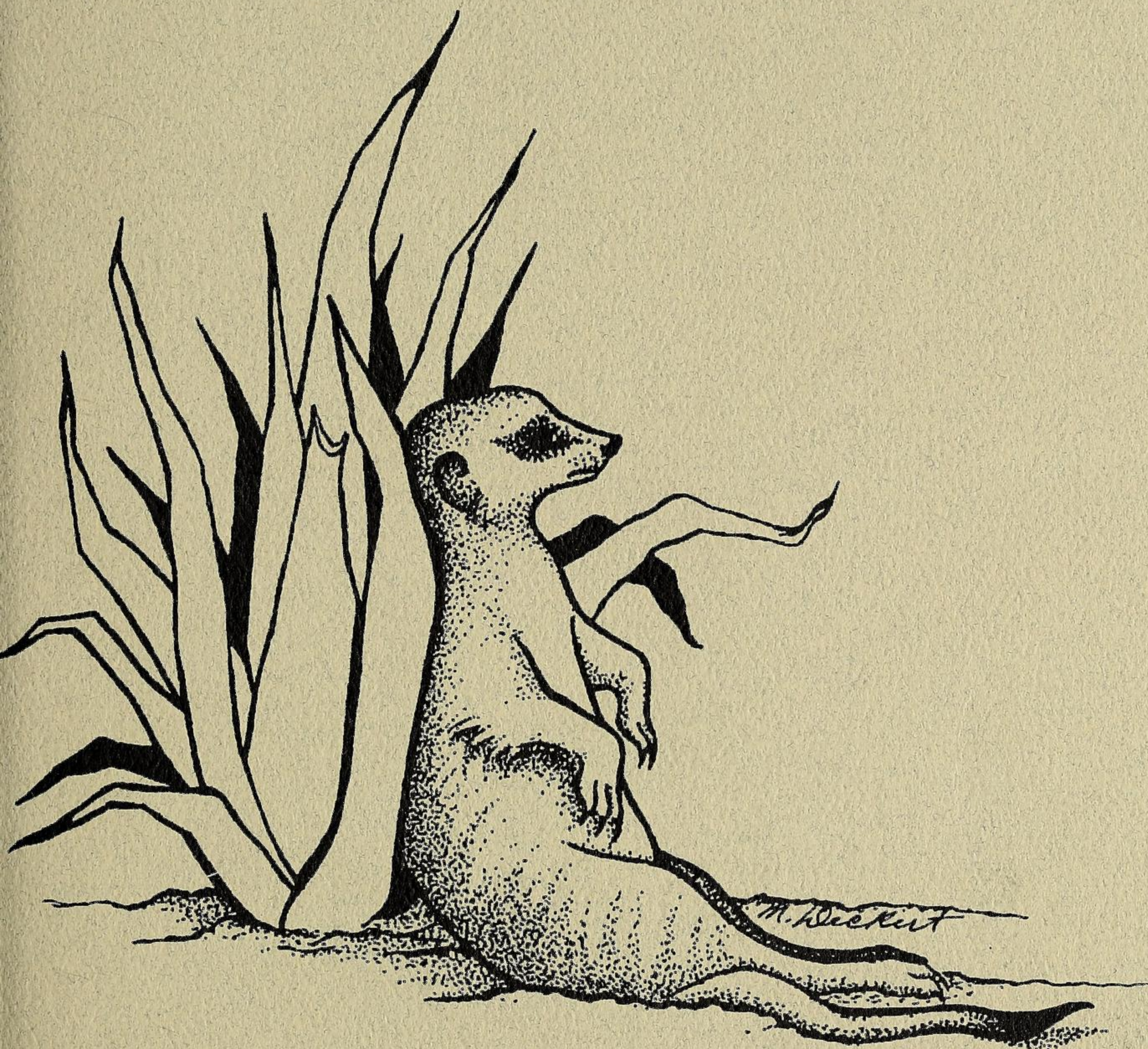


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ANIMAL KEEPERS' FORUM



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Using Operant Conditioning to Weigh 1.1 Southern White Rhinos

(*Ceratotherium simum simum*)

By

Linda Pill, Animal Keeper I and Brad Hange, Senior Keeper
The Baltimore Zoo, Baltimore MD

The Baltimore Zoo began using operant conditioning training techniques in 1994 to improve the daily management of our 1.1 southern white rhinos (*Ceratotherium simum simum*). Among other things, the training has allowed us to treat minor wounds more easily, perform annual vaccinations using a pole syringe, and elicit voluntary blood draws. In April of 1999 we put our training program to the test when we decided to try to weigh our rhinos. Without a restraining chute or built-in floor scale, we realized that training was the only way we could successfully accomplish this.

With our new goal clearly defined, we set out to design and construct a special weighing platform. It is comprised of two 4' x 8' pieces of plywood, several reinforcing 2" x 4" wood pieces, and two 1" x 3" wood pieces (Figure 1). The platform was designed so that it would be able to shift slightly to support the initial weight of the rhino, but would clear the floor when the rhino was positioned in the center.

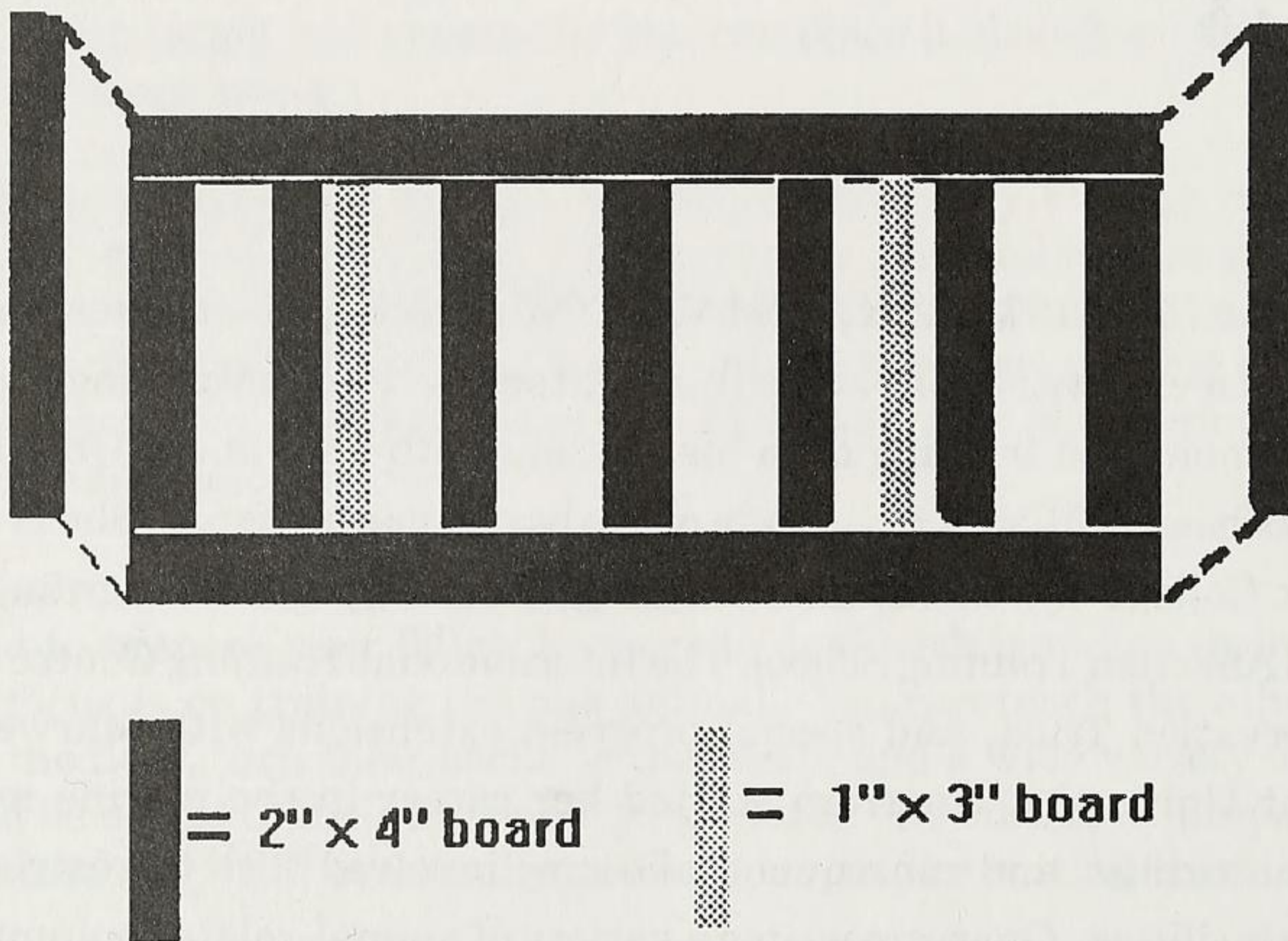


Figure 1. Bottom view of weigh board design.

We currently use nine different commands during the 10-20 minute training sessions. We use a clicker as a bridge and alfalfa cubes, produce, and brushing as reinforcement. Stubby, a seven-year-old captive born male, was selected to begin the weigh board training program because he is enthusiastic and usually learns very quickly. Through a series of slow desensitizations and successive

approximations, we were able to use simple, already established commands to achieve our goal. The following is the step-by-step process the rhino training team at The Baltimore Zoo used to successfully weigh our 1.0 white rhino using operant conditioning without the assistance of a restraining device.

1. Stubby was conditioned to readily move back and forth between two pens to allow us access to set up our equipment.

2. A 4' x 8' piece of plywood was set in the hallway outside his pen every night for a couple of weeks. It was moved around each night and placed in many different locations. He frequently sprayed it with urine when it was close enough to the bars of his pen.

3. We progressively slid the board into his pen under the horizontal bars over the course of several days. He continued to mark and investigate it. He often rubbed his horn on it and pushed it around.

4. He was then instructed to target (we use a broom handle with the end covered in duct tape as our target) near the board. He was then asked to steady (hold entire body still) adjacent to the board. Finally, he was targeted and steadied on top of the board with all four feet evenly distributed on the surface.

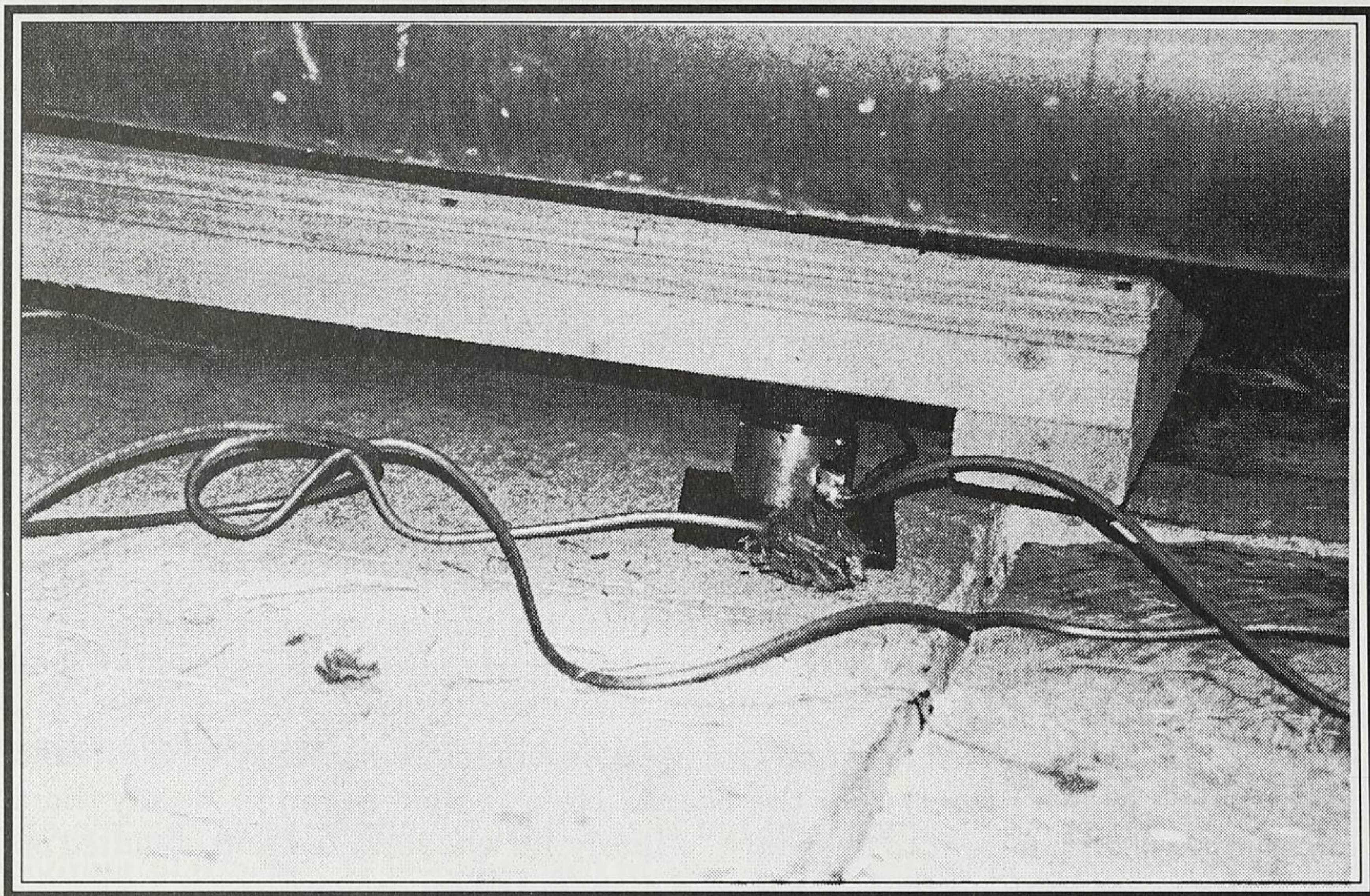
5. The board was then elevated using 2"x 4" boards and other wood scraps. This was done over the course of several days until the platform height was approximately 4". It became very important to reinforce the practice platform in many places to prevent the wood from cracking!

6. We used 3 1/2" square blocks of wood to substitute for the scale probes. The wood blocks were placed under the platform on the 1" by 3" wood strips as it was put into the pen. This allowed us to perfect our technique before jeopardizing the expensive equipment. It also allowed Stubby to experience the uneven surface of the board as well as the shifting of the platform under his body weight as he stepped on to it.

7. The new, permanent platform (Figure 1) was then placed in the hallway near his pen every night for about a week in order for him to mark it and become accustomed to it. We then repeated the preceding steps with the new board, but in much less time.

8. The scale probes were set up underneath the platform (which weighs about 200 pounds!) in the pen. The scale we use is a Gage Tek RB100P portable platform scale that consists of four separate 3 1/2" probes connected to a central control box. (For more information call (916) 853-1265 or see the web site at <http://www.gagetek.com>)

9. Stubby was asked to target and steady just in front of the platform. We found it helpful to hold him steady for a few minutes where he could see the platform in front of him.



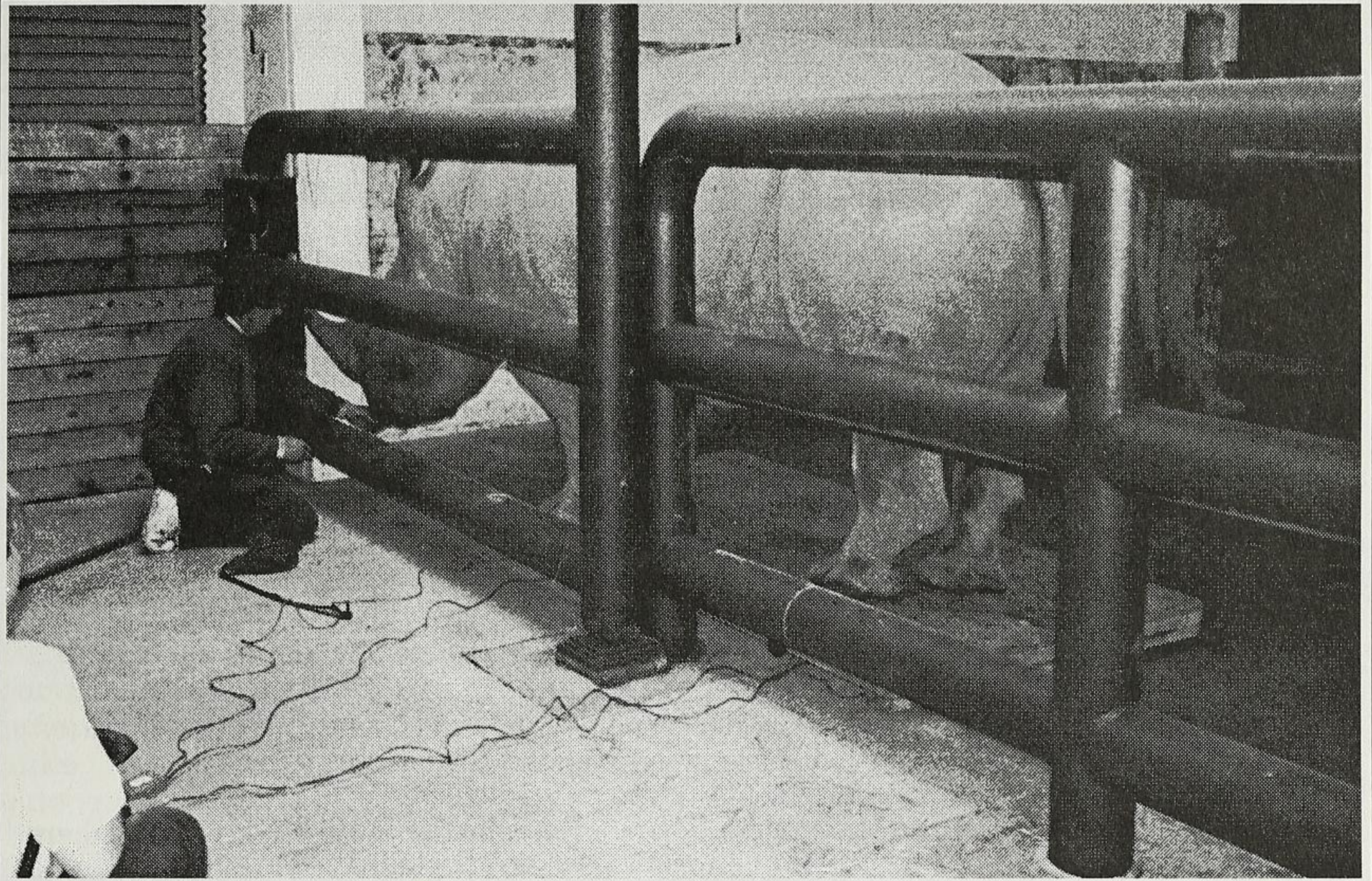
Weighing platform supported by scale probes. (Photo @ The Baltimore Zoo. Photo by Christine Bartos)

10. The target command was used to get him to step onto the platform a few steps at a time.

11. Once on top of the platform it became necessary to shift his weight from side to side using an extended target stick to maneuver his head. Unless he was positioned directly in the center, the corners of the platform would touch the ground and alter the accuracy of the measurement. We also used the "back" command to get him positioned exactly.

12. A remote target, a six-inch Boomer Ball® covered in duct tape and suspended from the ceiling, was used to get him to step off of the platform. This made it possible for him to step forward off of the platform as well as to distract him from moving it with his horn.

At his last weighing, Stubby was 4,444 pounds! (2015kg) We continue to use the weigh board regularly in our training sessions and have started to work with our significantly older, wild-caught female in the same manner.



1.0 rhino, Stubby, standing on weighing platform performing “steady” command. (*Photo of Albert Olson, Animal Keeper II @ The Baltimore Zoo. Photo by Christine Bartos.*)

Acknowledgements

Thanks to Steve Maltese, Veterinary Technician (“technical scale expert”). Also thanks to Christine Bartos, Senior Keeper, Steve Sarro, Curator, and all of the members of the rhino training team at The Baltimore Zoo: Gil Myers, Albert Olson, and Corey Fuhrer.

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