THE SLUICE BOX

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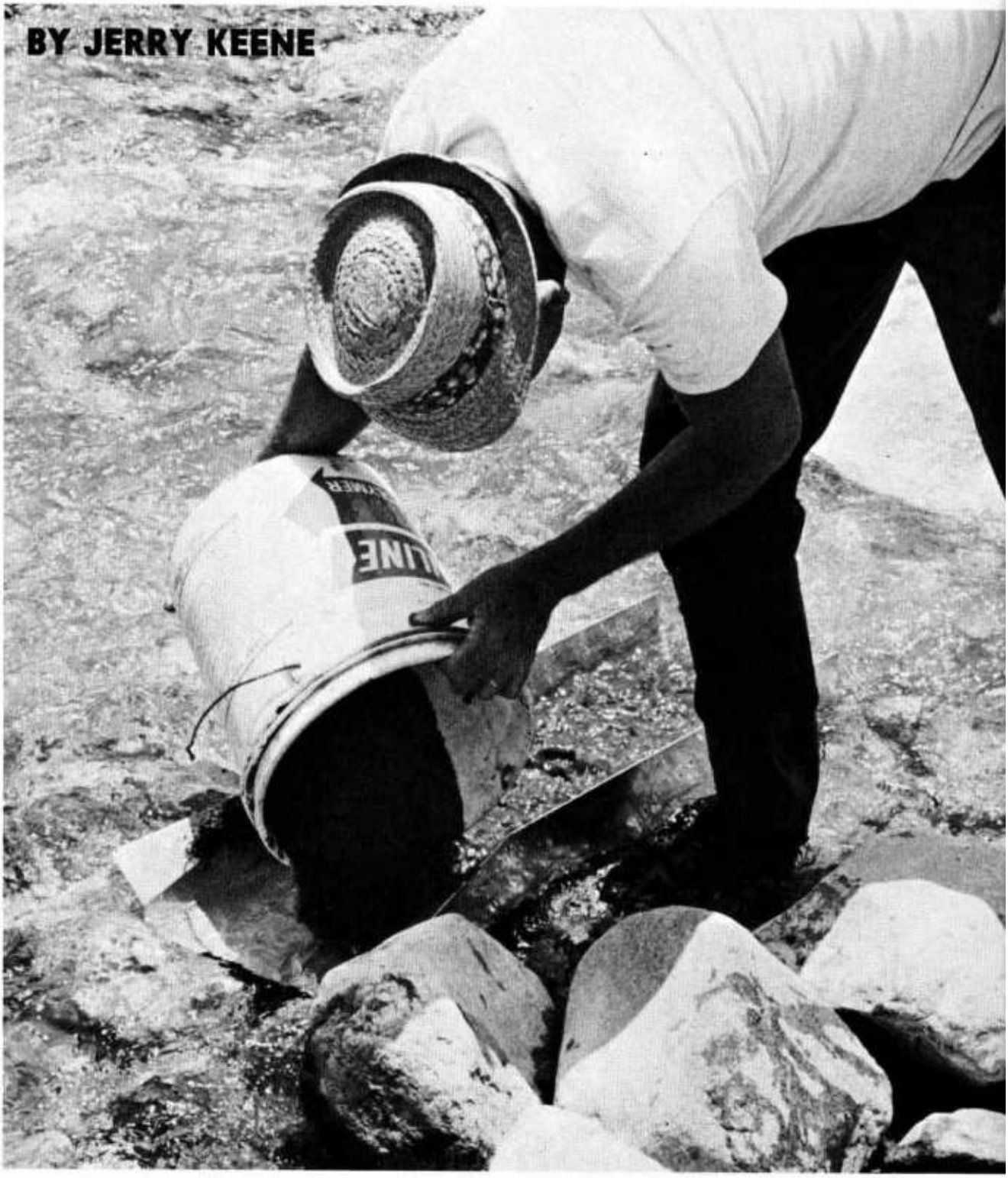

ANYONE CAN USE A SLUICE BOX WITH EASE

Sluicing, the most versatile and widely used placer mining technique, consists of nothing more than water carrying gold-bearing materials through an inclined trough over a series of irregularities, or "riffles." These riffles cause a vortex in the water flow, allowing the gold and heavy materials to settle to the bottom of the sluice box. Once or twice a day these 'concentrates" are removed, and panned as a final step in the recovery process.

Sluicing was used as far back as the 16th century by the Spanish. Then, as in the days of the '49ers, the sluice box was often a very heavy and cumbersome device that was usually built right on the site where it was to be used. In some cases, the "Long Toms," as they were often referred to, were as much as one-quarter mile in length, and up to 15 or 20 men would be shoveling material into the box at one time. Usually there were two crews working—one bringing material to the site of the sluice, while a second crew shov-

EVEN A SIMPLE 3-FOOT SLUICE BOX WILL INCREASE YOUR GOLD PRODUCTION FIVE TIMES OVER THE GOLD PAN

eled from containers into the sluice against a heavy head of water. Sometimes gold-bearing materials had to be carried quite a distance, as it was necessary to build the sluice at a properly-inclined spot where it would be fed by a stream or waterfall.

The riffles in the old sluices were made of any material at hand, from railroad ties to cobblestone boulders. Anything causing a disruption in the water flow would work, but due to inefficiency the gold loss was tremendous. Many modern miners make a business of re-working the old tailing piles, which may contain anywhere from $3 to $10 worth of gold per cubic yard.

While the general shape of the sluice box hasn't changed much over the years, the two noticeable improvements are in the materials (metal alloys reduce the weight drastically), and in the efficiency of the riffle design. This permits a three-foot sluice today to do the work it took a 12-foot sluice to do in the days of the '49ers. A properly-designed modern sluice box should hold about 90% of the gold within the first four to six inches of the box.

Because wood saturates with water so quickly, a wooden sluice, unless really thoroughly waterproofed, must be discarded after a few uses. For this reason metal is preferable. An alloy sluice will weight from 5 to 10 pounds, while a wooden one will often weigh between 25 and 30 pounds dry. As it becomes waterlogged the weight naturally shoots up.

Rot and imperfections in the wood is another consideration. The old sluices are a good example of this. Many people have gotten a considerable amount of gold by finding an old wooden sluice box, disassembling it, and panning the material. Some even go so far as to turn the wood and pan the ashes.

If you plan on building your own sluice box, go in and look at one of the commercial models first, as this will help prevent a lot of wasted time and lost gold.

In designing a sluice, the riffles should be made so they are removable. The expanded material (outdoor carpeting) under the riffles, which catches the very fine particles, should also be removable, so that the contents can be easily transferred into a gold pan without the necessity of inverting the entire sluice box.

15 OR 20 MEN WOULD SHOVEL MATERIAL INTO THE SLUICE BOX AT THE SAME TIME

The "box" itself should be a trough from 10 to 12 inches wide with sides about 6 inches high. The riffles can be anything from wooden slats to a floor mat, but the inverted "lazy L" or Hungarian Riffle is probably the most popular, as it causes an inner vortex "sucking" the heavy materials to the base of the riffle.

In general you can figure that the use of a sluice box will step up your production about 5 times over the use of a gold pan. Where a professional panner can pan about one yard per day, even with a 3-foot sluice box it is possible to process about five yards per day.

In addition to the gold pan for "cleaning up" the concentrates, a small shovel, an ordinary garden trowl, a large spoon, and a bucket are about the only other tools you will need. A small shovel (like an army trench tool is preferable to a large shovel because the naturally-concentrated areas of a stream contain a lot of rocks and large boulders. It would be very difficult to get the blade of a large shovel into these "paydirt" areas.

When you set up your sluice box, select a spot with three qualities: (1) Easy Access, (2) Proper Incline, (3) Minimum Water Depth of 4 inches. When you locate the proper spot, it probably will not be where you want to hunt your gold, so this is where the bucket comes in. Collect your material from the base of large rocks, among tree roots, next to rough bed rock, in mossy areas, and anywhere in the banks or stream bed where there has been an irregularity at one time or another—faults, crevices, etc. These spots constitute natural "gold traps."

RIFFLES CAN BE MADE OF ANYTHING FROM COBBLESTONES TO RAILROAD TIES

The proper incline for a three-foot long sluice box should be approximately 3 inches of tilt—about one inch per foot. You can tell if the water is flowing at the proper speed by dropping a small shovelful of material into the box. It should "disintegrate" gradually (about 30 seconds or so) with the water movement rather than to be sudlenly "gushed out" due to too-rapid a flow.

A sluice box is normally "cleaned up" once or twice a day unless you are in an area of extremely heavy black sand or gold. Pick out the larger nuggets by hand, then dump the rest of the concentrated material from the sluice into a gold pan. Separate all you can, but be sure and save the black sand for later commerial processing by more sophisticated jigs or tabeling devices. Black sand is often worth anywhere from $1 to $10 a pound, and if you collect a lot, it can be a valuable commodity. ■