The sifting operation can kick up dust, so to protect the engine, add a heavy-duty air cleaner above the trommel. The drywasher can be hand-cranked, so the engine is optional

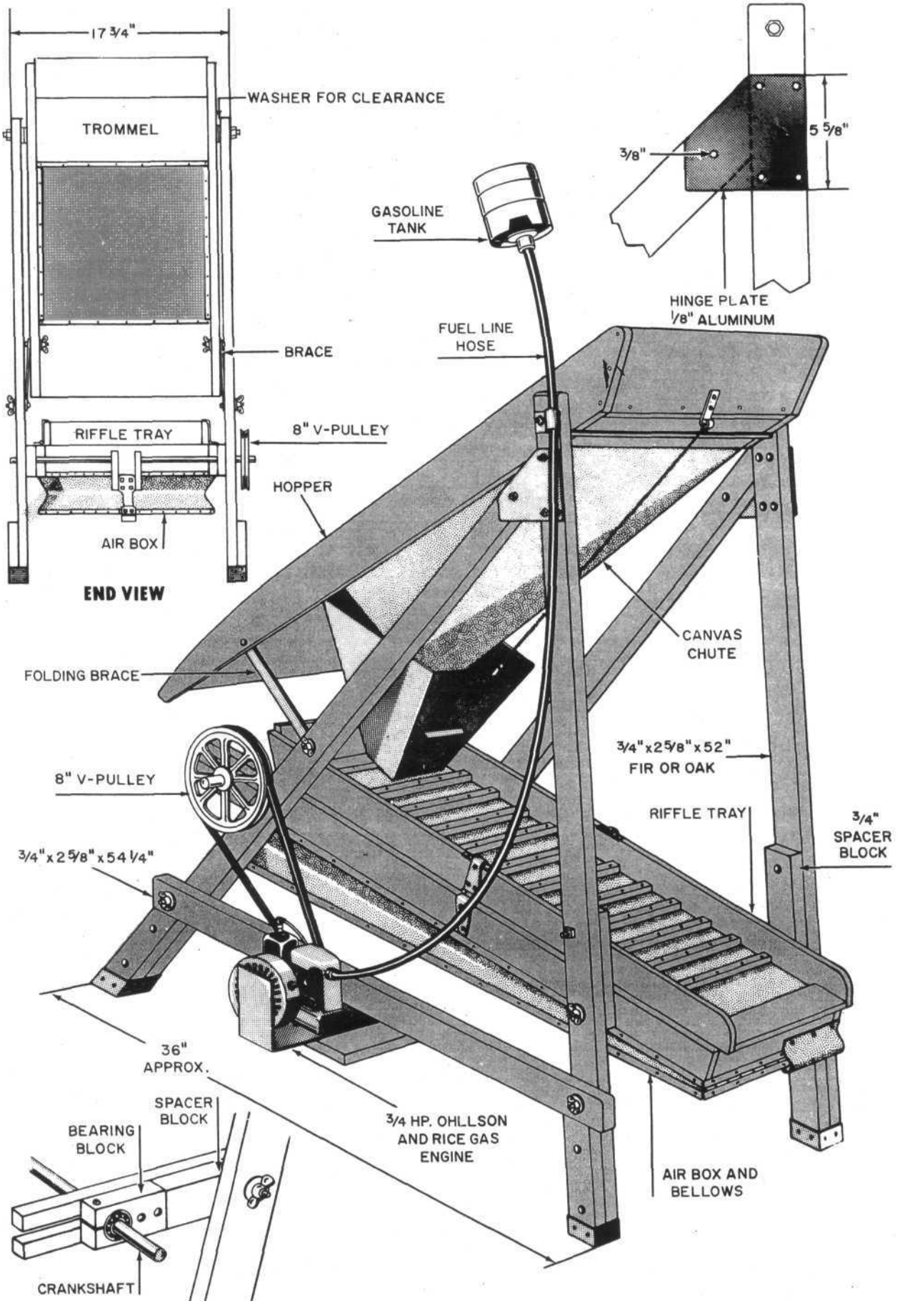
Gas-driven drywasher finds gold dust

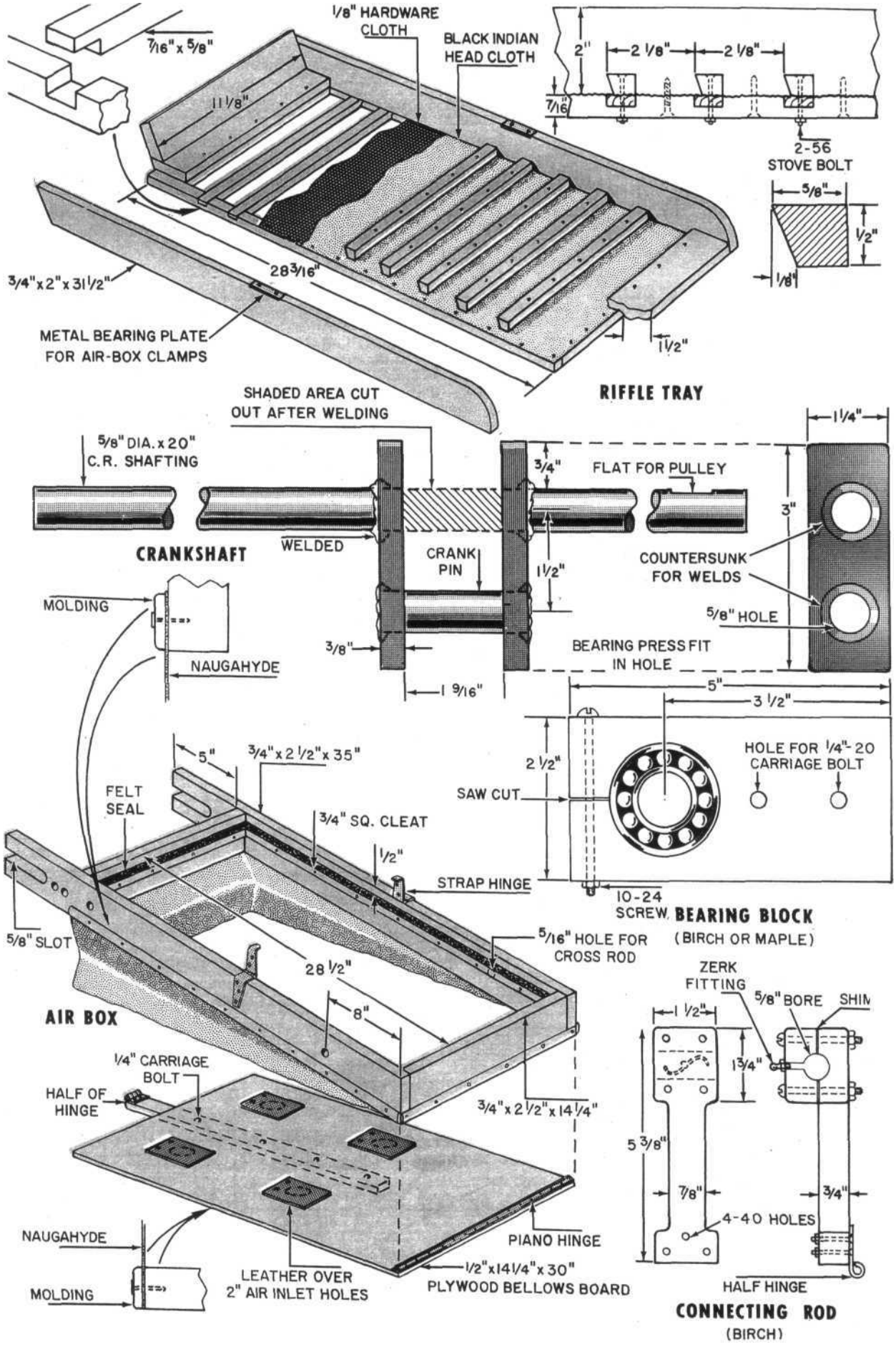
By JOHN E. LA VALLEE

Strike it rich in half the time with this vibrating rig which lets you sift for gold far from streams, where "claim jumpers" are a rarity

ATTENTION, you gold diggers! If you are one of the thousands of Americans who dream of finding fabulous riches by panning for gold, chances are you're more than mildly interested in the new family sport of finding the glittering crumbs overlooked by the '49ers.

The fun of panning for gold becomes twice as exciting (and profitable) when you can work regions which are not swarming with other "claim jumpers." In his search for gold, the old-time prospector stuck pretty much to streams and riverbeds and passed up desert placers because of a lack of water. The same holds true in the present day gold rush. But with this build-it-yourself drywasher, the modern-day sourdough and his vacationing family are able to work off-stream diggin's and old mine dumps with as little


17 3/4"
WASHER FOR CLEARANCE
TROMMEL
BRACE
RIFFLE TRAY
8" V-PULLEY
HOPPER
AIR BOX
END VIEW
3/8"
5 5/8"
HINGE PLATE
1/8" ALUMINUM
GASOLINE TANK
FUEL LINE HOSE
CANVAS CHUTE
FOLDING BRACE
3/4"x2 5/8"x52"
FIR OR OAK
8" V-PULLEY
RIFFLE TRAY
3/4" SPACER BLOCK
3/4"x2 5/8"x54 1/4"
36" APPROX.
3/4 HP. OHLLSON AND RICE GAS ENGINE
AIR BOX AND BELLOWS
SPACER BLOCK
BEARING BLOCK
CRANKSHAFT


1/8" HARDWARE CLOTH
BLACK INDIAN HEAD CLOTH
7/16" x 5/8"
11 1/8"
2"
2 1/8"
2 1/8"
7/16"
2-56 STOVE BOLT
5/8"
1/2"
1/8"
3/4" x 2" x 31 1/2"
28 3/16"
METAL BEARING PLATE FOR AIR-BOX CLAMPS
1 1/2"
RIFFLE TRAY
SHADED AREA CUT OUT AFTER WELDING
5/8" DIA. x 20" C.R. SHAFTING
1 1/4"
3/4"
FLAT FOR PULLEY
3"
WELDED
CRANK PIN
1 1/2"
CRANKSHAFT
COUNTERSUNK FOR WELDS
5/8" HOLE
BEARING PRESS FIT IN HOLE
3/8"
1 9/16"
MOLDING
NAUGAHYDE
5"
3 1/2"
2 1/2"
HOLE FOR 1/4"-20 CARRIAGE BOLT
SAW CUT
10-24 SCREW
BEARING BLOCK
(BIRCH OR MAPLE)
5"
3/4" x 2 1/2" x 35"
FELT SEAL
3/4" SQ. CLEAT
1/2"
STRAP HINGE
5/8" SLOT
5/16" HOLE FOR CROSS ROD
28 1/2"
8"
AIR BOX
ZERK FITTING
5/8" BORE
SHIM
1 1/2"
1 3/4"
5 3/8"
7/8"
3/4"
4-40 HOLES
1/4" CARRIAGE BOLT
HALF OF HINGE
3/4" x 2 1/2" x 14 1/4"
NAUGAHYDE
MOLDING
LEATHER OVER 2" AIR INLET HOLES
PIANO HINGE
1/2" x 14 1/4" x 30"
PLYWOOD BELLOWS BOARD
HALF HINGE
CONNECTING ROD
(BIRCH)

as a tub of water, since only the screened concentrate needs to be washed.

The drywasher is nothing more than a motorized sifter which jiggles vigorously to separate the gold from the sand and gravel you shovel into it. In actual operation, the earth being tested is shoveled onto a slanting screen-covered tray called a trommel, where it sifts through onto a canvas chute and flows into a hopper.

When the hopper and chute are full right up to the trommel, the engine is started and the gate in the hopper is opened about 3/4 in. The material in the hopper flows onto an inclined tray which is fitted with cross cleats called riffles. Rapid air pulsations, produced by a bellows mounted below the tray and operated by a crankshaft, bounce the screenings 2 to 3 in. above the cloth bottom of the tray. This jiggling action causes the heavier part of the material (the gold) to settle to the bottom of the tray and collect behind the beveled riffles, while the lighter portion flows over the cleats and off onto the ground as waste.

When the hopper is empty, the engine is shut off and the riffle tray is lifted from the air box on which it sits. The concentrate held by the riffles is carefully poured into a pan of water and washed in the usual way to check the presence of gold in the concentrate. The process is repeated until you have all the gold you can carry.

Basically, the drywasher consists of four main parts: the trommel, riffle tray, air box and hopper -each being detailed individually in the drawings. Standing on A-frame legs fitted with wingnuts, the rig can be quickly dismantled for carting to and from the site of your prospecting. The cloth used in the bottom of the riffle tray must be sufficiently porous to allow air from the bellows to pass through freely, yet it must be strong enough so that it doesn't wear out rapidly. For these reasons the Indianhead cloth must be supported by hardware cloth as detailed.

Chances are that you won't get rich from this fascinating hobby, but you might be lucky enough to recover $1700 as one amateur prospector did in a summer of digging for gold.

And it was done with a drywasher similar to the one described here—that and perseverance.