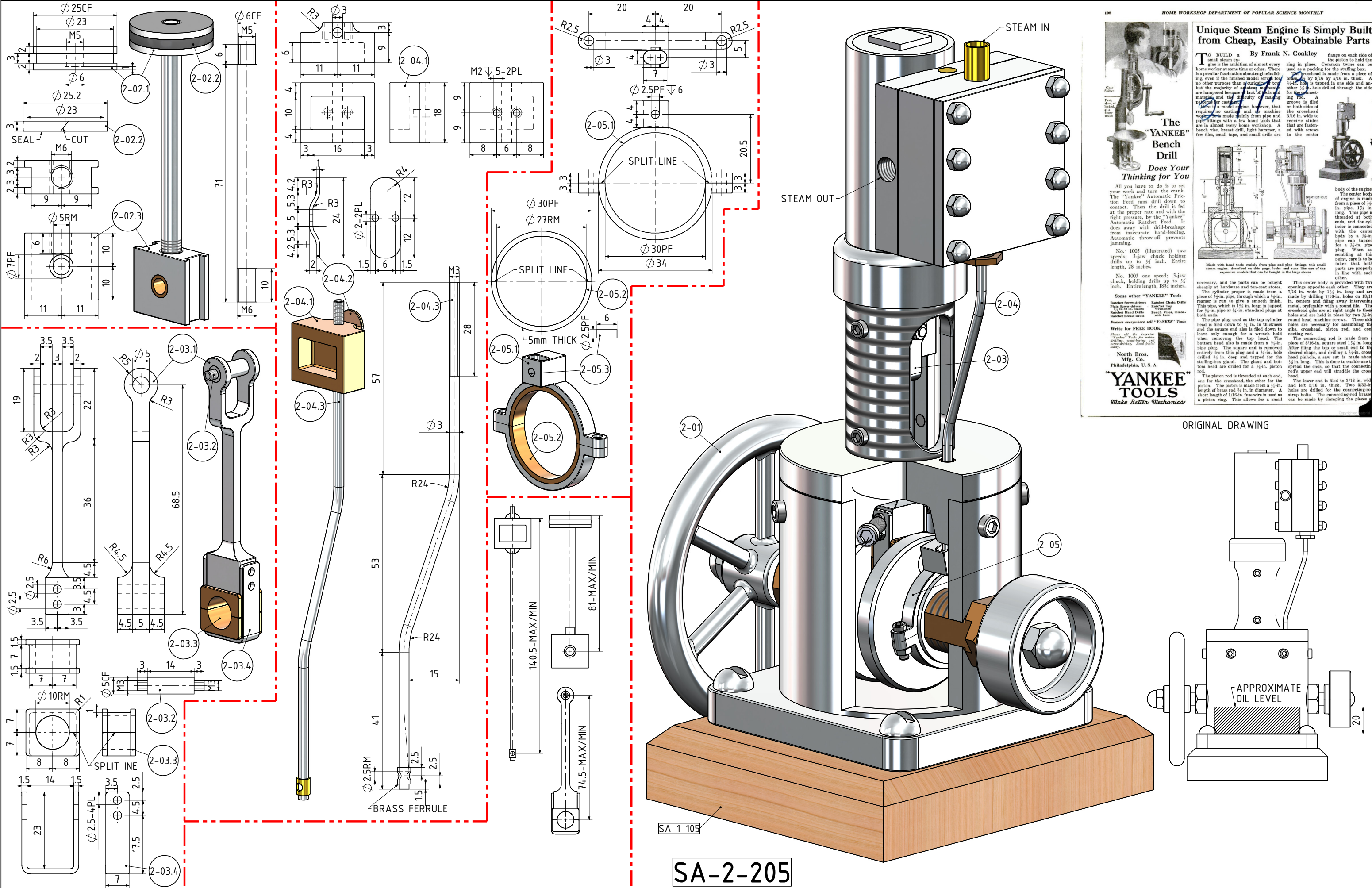




108 HOME WORKSHOP DEPARTMENT OF POPULAR SCIENCE MONTHLY

Unique Steam Engine Is Simply Built from Cheap, Easily Obtainable Parts

By Frank N. Coakley

To build a small steam engine is the ambition of almost every home worker at some time or other. There is a peculiar fascination about engine building, even if the finished model serves for no other purpose than a curiosity. Many of the home workers, however, are hampered because of lack of tools and materials, and the difficulty of making parts for casting or machine work. If a model engine, however, that can be made in almost every home workshop, and that requires no casting and no machine work, would be made mainly from pipe and pipe fittings with a few hand tools that are in almost every home workshop, it would be a model engine, indeed. A pipe and fitting steam engine, made with a few hand tools that are in almost every home workshop, and that requires no casting and no machine work, would be a model engine, indeed. A pipe and fitting steam engine, made with a few hand tools that are in almost every home workshop, and that requires no casting and no machine work, would be a model engine, indeed.

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flange on each side of the piston to hold the ring in place. Common twist can be used as a packing for the stuffing box. The crosshead is made from a piece of 1 1/2 by 9/16 by 5/16 in. thick. A 3/16-in. hole is drilled through the side for the connecting rod. A groove is filed on both sides of the crosshead 3/16 in. wide to receive slides that are fastened with screws to the center.

The center body of the engine is made from a piece of 1 1/2 in. long and 1 1/2 in. wide by 1 1/2 in. long. This pipe is threaded at both ends, and the cylinder is connected with a 1/2-in. pipe cap tapped for a 1/4-in. pipe plug. When assembling at this point, care is to be taken that both parts are properly in line with each other.

This center body is provided with two openings opposite each other. They are 7/16 in. wide by 1 1/2 in. long and are made by drilling 7/16-in. holes on 13/16 in. centers and filing away intervening metal, preferably with a round file. The crosshead gibs are at right angle to these holes and are held in place by two 3/16-in. round head machine screws. These side holes are necessary for assembling the gibs, crosshead, piston rod, and connecting rod.

The connecting rod is made from a piece of 3/16-in. square steel 1 1/2 in. long. After filing the top or small end to the desired shape, and drilling a 1/4-in. cross head pinhole, a saw cut is made about 1/2 in. long. This is done to enable one to spread the ends, so that the connecting rod's upper end will straddle the cross head.

The piston rod is threaded at each end, one for the crosshead, the other for the piston. The piston is made from a 1/4-in. length of brass rod 3/16 in. in diameter. A short length of 1/16-in. fuse wire is used as a piston ring. This allows for a small

NOTES: THE ORIGINAL DRAWINGS WERE GIVEN TO ME. THE ORIGINAL DRAWINGS WERE PUBLISHED IN THE "POPULAR SCIENCE MONTHLY" MAGAZINE OF FEBRUARY 1924 PAGE 108. ARTICLE TITLE: "UNIQUE STEAM ENGINE IS SIMPLY BUILT FROM CHEAP, EASILY OBTAINABLE PARTS"										
TITLE 1 CYLINDER VERTICAL NON REVERSABLE STEAM ENGINE OF 1924 (B=25mm S=34mm)				DRAWING CONTENTS PARTS AND ASSEMBLIES			PROJECT No 09C-66-00 JDW DRAUGHTING SERVICES J.A.M. DE WAAL, 12 BRIGHTWELL STREET PAKAPURA 2110, NEW ZEALAND. PHONE: 0064 09 2988815. MOB: 0211791000 E-MAIL: dewaal@xtra.co.nz.		PROJECTION  JDWDS MODEL SCALE: 1:1 DATE FEBRUARY 2025 DWG SCALE: 1:1 @A3 OR AS SHOWN Copyright © J.A.M. DE WAAL PAKAPURA NZ SHEET: 03 OF 03 A3 No:09C-66-00-SHT-03	
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