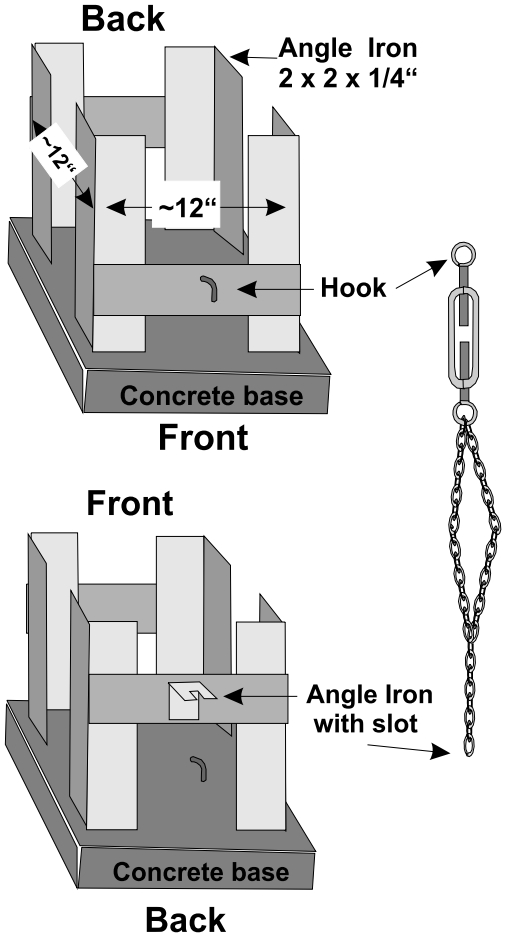
Adjustable Anvil Stand

Steve Bloom

At the John C. Campbell Folk School, in the Whitaker shop, are adjustable anvil stands at each station. The design is simple, effective, and well worth knowing about. The stand consists of four pieces of heavy angle iron position enclosing a 11.5" x 11.5" space (width of nominal 2" x 12" planks)(see accompanying figure). The pieces are embedded into a concrete base. On one surface (the 'front') is a strap of 2" x 1/4" steel welded across two of the uprights and is positioned near the base. On that strap is a heavy hook, welded to the strap. On the opposite surface is another strap of the same dimensions positioned somewhat higher on the other pair of uprights. A slotted piece of angle iron is welded in the same location as the hook on the first strap. Drop the appropriate number of 11.5" pieces of 2"x12" planking into the space until the anvil surface will be at the correct height for you. Plop your anvil on top and position the horn which ever way you like (we don't need to get into that decision!). The lock-down consists of a 'Y' piece of moderately heavy chain. The two 'top ends' of the 'Y' are connected to the loop on a heathy turn-buckle. The chain necklace is slipped over the anvil, the lower loop of the turn-buckle is slipped over the hook, and the free end (the 'stem' of the 'Y') is slipped into the slot. By adjusting just where the free-end intersects with the slot and by working the turn-buckle, you lock the anvil to the stand. You want to change the height? Just add or delete boards. Purty simple, no?



CALCULATING PULLEYS

Here are some formulas from the 1919 5th Edition Machinery's Handbook.

Speed of Driven Pulley Required:
If the diameter of the driving pulley is 15 inches and its speed, 180 revolutions per minute, and the diameter of the driven pulley, 9 inches, then the speed of the driven pulley = (15 X 180) / 9 = 300 revolutions per minute.

Diameter of Driven Pulley Required:
If the diameter of the driving pulley is 24 inches and its speed, 100 rpm, and the driven pulley is to rotate 600 rpm, then the diameter of the driven pulley = (24 X 100) / 600 = 4 inches.

Diameter of Driving Pulley Required:
If the diameter of the driven pulley is 36 inches and its required speed, 150 rpm, and the speed of the driving pulley is 600 rpm, then the diameter of the driving pulley = (36 X 150) / 600 = 9 inches.

Speed of Driving Pulley Required:
If the diameter of driven pulley is 4 inches, its required speed, 800 rpm, and the diameter of the driver, 26 inches, then the required speed of the driver = (4 X 800) / 26 = 123 rpm, approximately.

Speed of Driven Pulley in Compound Drive Required:
If the diameters of the driving pulleys are 18" (single pulley) and 24" (larger of dual pulleys); the diameters of the driven pulleys 12" (smaller of dual pulleys and connected to 18" drive pulley) and 13" (driven by 24" pulley); and the speed of the 18 inch driver, 260 rpm; then the speed of the driven 13 inch pulley = (18 X 24) / (12 X 13) X 260 = 720 rpm.

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