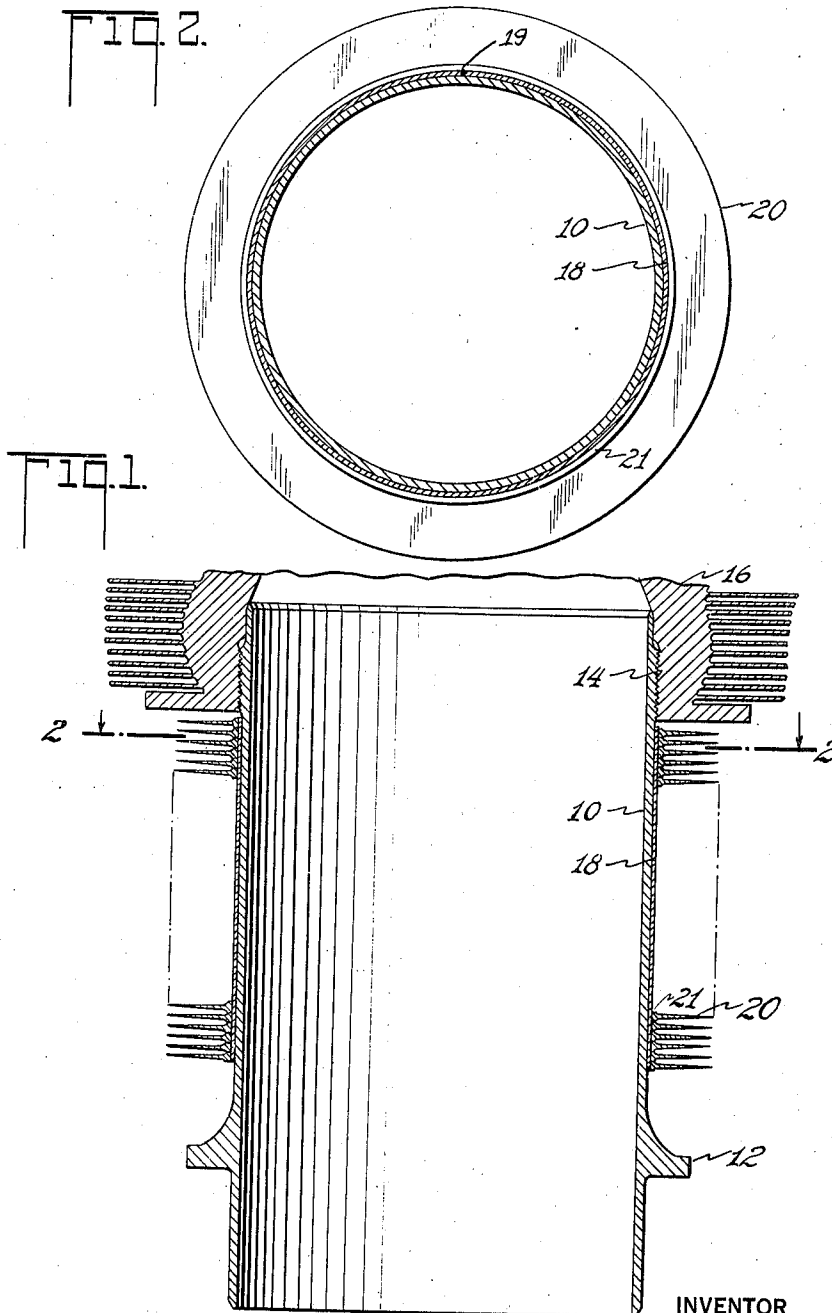


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R. CHILTON ET AL
CYLINDER FIN CONSTRUCTION
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INVENTOR
Roland Chilton and Rudolph F. Gagg
BY *W. E. Black*
ATTORNEY

UNITED STATES PATENT OFFICE

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CYLINDER FIN CONSTRUCTION

Roland Chilton, Ridgewood, and Rudolph F. Gagg, Fair Lawn, N. J., assignors to The Reed Propeller Co., Inc., a corporation of New York

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6 Claims. (Cl. 257-261)

This invention relates to air-cooled engine cylinder barrels and comprises an improved finning means especially suited for cylinder barrels having enlarged diameter end portions.

Objects of the invention are to obtain higher, thinner, lighter and more closely spaced fins than are practicable with the conventional integral fins machined on the steel barrels, and to produce the improved barrel assembly with a minimum of weight and a reduction in cost.

In the drawing:

Fig. 1 is a longitudinal section through a cylinder barrel incorporating the fins of this invention; and

Fig 2 is a sectional plan view on the line 2-2 of Fig. 1.

In the drawing, 10 designates an air-cooled cylinder barrel of high strength material such as steel, having the usual hold-down flange 12 and the usual threads 14 onto which the cylinder head 16 is screwed and shrunk in the usual way.

As usual, in order to save weight, the exterior diameter of the cylinder between the threads 14 and the flange 12 is smaller than the outside diameter at the threads which accordingly precludes the application of endless rings for direct contact with the cylinder barrel surface. However, application of endless rings is desirable, instead of conventionally machining the fins from the cylinder barrel itself, to gain in lightness, heat conduction and low cost.

According to the provisions of this invention, a split sleeve or jacket 18 having a parting 19 is sprung on to envelop the part of the barrel to be finned. The thickness of the sleeve is such that its outside diameter is as great as that of threads 14 while the sleeve is made of light, high conductivity material such as aluminum, whereby considerable weight is saved as compared to the case where the steel barrel itself is increased in thickness to permit of assembly of the fins past the screw-threaded portion.

Fins 20, preferably also of aluminum, have enlarged bases as shown at 21 and are assembled by slipping them over the threads 14 and by shrinking onto the outer sleeve 18 from elevated temperatures whereby, upon cooling, high contact pressures, giving good thermal conductivity at the joints, are obtained, between the cylinder and sleeve and between the sleeve and fin rings.

While we have described our invention in detail in its present preferred embodiment, it will be obvious to those skilled in the art, after understanding our invention, that various changes and modifications may be made therein without departing from the spirit or scope thereof. We aim in the appended claims to cover all such modifications and changes.

What is claimed is:

1. The combination with a cylinder barrel having a reduced external diameter intermediate its ends; of a plurality of endless fins having a bore sufficiently large to pass one said end, and a split sleeve closely enveloping said barrel and onto which said fins are shrunk.

2. The combination with a cylinder barrel having projecting screw threads adapted to secure a cylinder head, of a split sleeve adapted to be sprung over said threads and having equivalent outer diameter thereto, and endless fin rings shrunk upon said sleeve.

3. The combination with a cylinder barrel, having projecting cylinder head securing threads, of a split sleeve encircling said barrel, and fin rings shrunk upon said sleeve.

4. The combination with a cylinder barrel, having projecting cylinder head securing threads, of a split sleeve encircling said barrel, and fin rings shrunk upon said sleeve, said sleeve and fins being of lighter and thermally more conductive material than said barrel.

5. The combination with a cylinder barrel, having projecting cylinder head securing threads, of a split sleeve encircling said barrel, and fin rings shrunk upon said sleeve, said barrel being of stronger and heavier material than said fins and sleeve.

6. The combination with a tubular member having a central cylindrical portion of less diameter than the end portions, of a sheet of light material wrapped around said central portion, said sheet having a thickness at least equal to the difference in radii between said central portion and one of said end portions, and a plurality of fin rings having an internal diameter at least equal to that of said end portion, adapted for fitting engagement around said sheet.

ROLAND CHILTON.
RUDOLPH F. GAGG.