Dec. 22, 1942. R. B. ELMER 2,306,047

WATER COOLING TOWER

Filed Nov. 14, 1941

Fig. 1

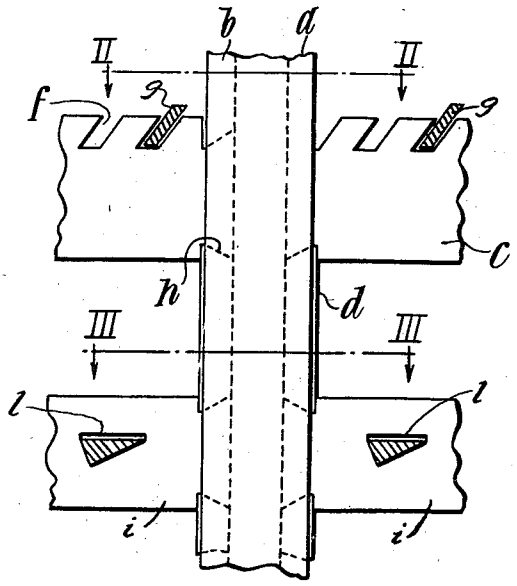


Fig. 2

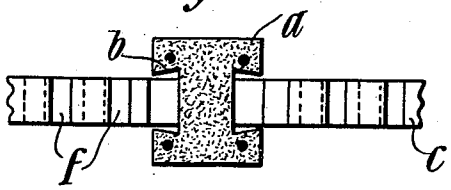
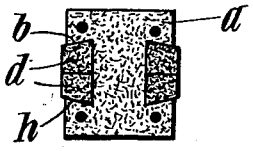


Fig. 3



INVENTOR:
ROBERT BENJAMIN ELMER
BY: Francis E. Boyce
ATTORNEY

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WATER COOLING TOWER

Robert Benjamin Elmer, Westminster, London, England, assignor to L. G. Mouchel & Partners, Limited, London, England, a company of Great Britain

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4 Claims. (Cl. 261—111)

This invention relates to water cooling towers.

It has been found that a few years after timber cooling towers have been erected and put into use, the chimney, which consists of thin wooden boards, presents serious leakages. Consequently the old boards have to be replaced by new ones, and after some time the whole of the timber chimney has to be replaced. At a later date, the internal cooling stack has to be replaced, and so on. In fact, the internal cooling stack will probably have to be frequently replaced.

It has furthermore been found that where a water cooling tower has been constructed with a ferro-concrete chimney, and a cooling stack of timber, after say some fifteen years, the chimney is still in sound condition, whereas the stack is rotted and has to be entirely replaced.

Objects of this invention are to provide means for constructing a stack which shall be more economical of timber, and in the long run, of cost than those hitherto constructed.

In accordance with the present invention we provide for water cooling towers, supporting posts for the reception of the ends of the bearers, the supporting posts being provided with longitudinal grooves which are stepped or stopped by means individual to said grooves intermediate of the ends of the posts for the reception of the bearer ends, said means being disposed between successive bearers.

The posts are combined with bearers recessed or orificed, preferably with holes having slanting sides, for the reception of louvres.

The accompanying drawing illustrates the invention:

Fig. 1 is a part elevation of a supporting post and bearer supported thereby.

Fig. 2 shows a transverse section along the line II—II in Fig. 1, looking in the direction of the arrows.

Fig. 3 shows a transverse section along the line III—III in Fig. 1 looking in the direction of the arrows.

In the drawing the reinforced concerete supporting posts *a* are provided with lateral longitudinal grooves *b*, the said grooves having a convenient shape, to allow easy access of bearers *c* of reinforced concrete which are supported by those posts, and also to facilitate the simple insertion of spacer blocks *d* which will effectually space the bearers.

In the construction illustrated the spacer blocks *d* in conjunction with the ends of the bearers are formed in such a shape that if necessary they form a key *h* effectually fixing the bearers to the posts and keeping the spacer blocks in position.

The bearers *c* are provided with transverse slanting slots *f* for the reception of the louvres *g*.

Different type bearers *i* supporting other shaped louvres (in this particular case, triangular louvres), are pierced by triangular orifices *l* in which the ends of the louvres are inserted.

Stacks made in accordance with the present invention materially reduce the amount of wood necessary for the internal fitments of water cooling towers.

It will be readily understood that the details of construction may be varied without departing from the scope of the invention.

What I claim and desire to secure by Letters Patent is:

1. In a water cooling tower, a plurality of vertical posts having confronting faces, the confronting faces of each pair of posts having vertical grooves, a plurality of louvre bearers extending between the pair of posts and each having its ends slidably mounted in the respective grooves, said bearers being spaced one above the other, and removable spacer blocks fitting in said grooves between the ends of the bearers, said spacer blocks each having its upper and lower edges bevelled to incline toward each other from the outer to the inner face of the block, said bearers having each end provided with notches in its upper and lower edges each fitting against a bevelled edge and the adjacent front face portion of a spacer block.

2. In a water cooling tower, a pair of vertical posts having confronting faces, said confronting faces each having a dove-tailed groove extending vertically of the post, a plurality of louvre bearers extending one above another between said posts, said bearers having ends of a width adapted to enter said grooves through the narrow part of the dove-tail and the ends of each bearer engaging in respective grooves, and dove-tailed spacer blocks fitting slidable in said grooves between the ends of the bearers, said spacer blocks each having its upper and lower edges bevelled to incline toward each other from the outer to the inner face of the block, said bearers having each end provided with notches in its upper and lower edges each fitting against a bevelled edge and the adjacent front face portion of a spacer block.

3. In a water cooling tower, a pair of vertical posts having confronting faces, said confronting faces each having a dove-tailed groove

extending vertically of the post, a plurality of louvre bearers extending one above another between said posts, said bearers having ends of a width adapted to enter said grooves through the narrow part of the dove-tail and the ends of each bearer engaging in respective grooves, dove-tailed spacer blocks fitting slidable in said grooves between the ends of the bearers, each of said spacer blocks consisting of a pair of vertically extending laterally contacting halves slidable with respect to each other.

4. In a water cooling tower, a pair of vertical posts having confronting faces, said confronting faces each having a dove-tailed groove extending vertically of the post, a plurality of louvre bearers extending one above another between said posts, said bearers having ends of a width adapted to enter said grooves through the narrow part of the dove-tail and the ends of each bearer engaging in respective grooves, and dove-tailed spacer blocks fitting slidable in said grooves between the ends of the bearers, said spacer blocks each having its upper and lower edges bevelled to incline toward each other from the outer to the inner face of the block, said bearers having each end provided with notches in its upper and lower edges each fitting against a bevelled edge and the adjacent front face portion of a spacer block, each of said spacer blocks consisting of a pair of vertically extending laterally contacting halves slidable with respect to each other.

ROBERT BENJAMIN ELMER.