

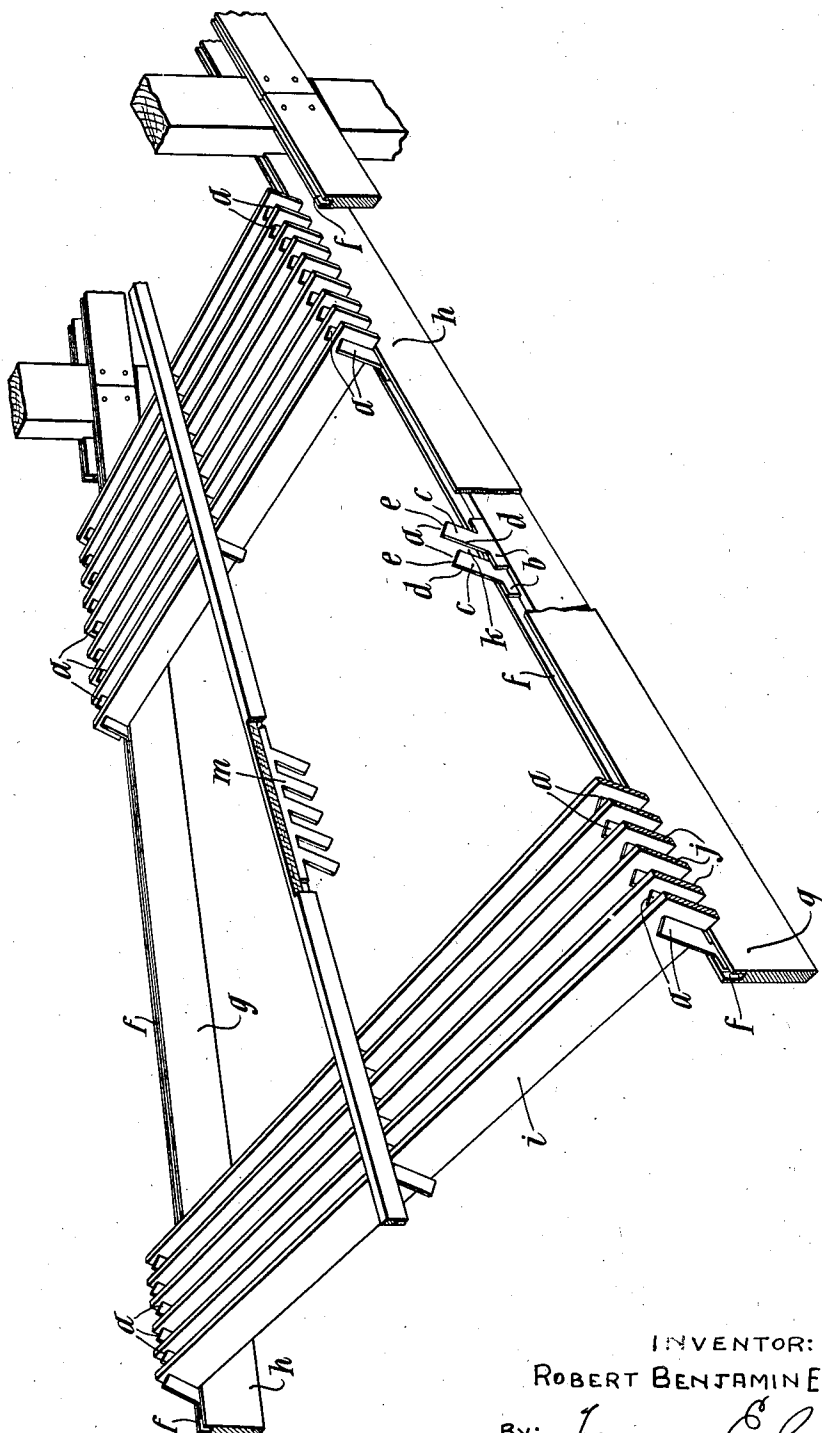
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CONSTRUCTION OF WATER COOLING TOWERS

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CONSTRUCTION OF WATER COOLING
TOWERS

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This invention relates to the construction of water cooling towers and in particular to the construction of the irrigation system therein.

In my United Kingdom patent specification No. 483,338 I have described a water cooling tower wherein the louvres of the irrigation system are mounted between side frames extending across the tower and designed to accommodate one layer of louvres, the latter being held in position in spaced relationship in the side frames by means of distance pieces inserted between the ends of the louvres.

The side frames described in the specification of this prior patent application are of open rectangular construction, the ends of the louvres being fitted between upper and lower longitudinal members of the side frames.

The object of the present invention is to provide an improvement in the said construction which permits the louvres to be assembled and dismantled in a substantially shorter time; and which, further, provides a cheaper construction.

The present improvement consists essentially in replacing the open rectangular side frames referred to by side frames or bearers having a grooved edge in which the distance pieces between which the ends of the louvres can be fitted can be slidden.

In a water cooling tower made according to the present invention the ends of the louvres are therefore mounted between distance pieces which are slidably fitted in grooves in bearer members taking the place of the side frames of my above mentioned prior application.

The distance pieces may be generally of distorted T-shape, the leg or projection at an angle other than a right-angle to the base, this angle corresponding to the angle at which the louvres are to be laid on the bearers.

The grooves in the bearer members may have a width corresponding to twice the thickness of the distance pieces whereby the horizontal bases may be arranged in the grooves so as slightly to overlap, the angularly disposed limbs of the overlapping bases being staggered so that the ends of the baffles can engage in the inclined spaces disposed between the angularly disposed projections of the distance pieces.

The end distance pieces on the bearers are preferably rigidly fixed in position on the bearers in order to maintain the whole assembly rigid.

Each row of louvres mounted on the bearers may be stiffened by a stiffening member. These stiffening members may also comprise distance pieces similar to those above referred to, the

angularly disposed projections being passed downwardly between the louvres and the horizontal parts being engaged in a groove provided in a bar of wood or the like as above described.

The distance pieces may be of wood or other suitable material, e. g. asbestos or metal. They may further be made as separate members or may be embodied in a single member which will thus be of comb-like construction, the teeth forming the distance pieces being suitably inclined to the continuous part.

The grooved bearers for the louvres may be supported on posts in the cooling tower in any one of the ways described in the specification of my prior patent specification No. 483,338 or otherwise suitably. Further, also as described in the prior specification referred to, one side bearer may carry the ends of two sets of louvres extending on opposite sides of the bearer, the ends being suitably staggered.

The figure in the accompanying drawing illustrates in perspective view one form of device made in accordance with the present invention.

In carrying the invention into effect as illustrated in the drawing the distance pieces *a* are made of four-ply wood and comprise a horizontal base *b* about $3\frac{1}{2}$ " long and 1" deep and an extension *c* projecting centrally from one edge at an angle of 120° thereto, this extension also having a width of 1", a long edge *d* of about 3" (making an angle of 120° with the base) and a shorter edge *e* of about $2\frac{1}{4}$ " (making an angle of 60° with the base). These distance pieces *a* are adapted to be slidden into grooves *f* provided in the longitudinal edges of timber boards *g* of rectangular cross-section constituting bearers *h* for the louvre. The grooves *f* in the edges of these bearers are substantially twice as wide as the thickness of the distance pieces thus permitting two distance pieces to be slidden in the groove somewhat tightly with the bases overlapping. The bearers *h* are mounted in the tower, for example, in any one of the ways described in connection with the side frames of my prior patent specification No. 483,338. The ends of the louvres *i* are then placed with their ends *j* supported respectively on two adjacent bearers *h* and are secured in position at the correct inclination by introducing the bases *b* of the distance pieces *a* into and sliding them along the grooves *f*, so that the edges of the inclined projections on the distance pieces bear against the inclined sides of the louvres.

It will be readily understood that by using a double row of distance pieces *a* and slightly

staggering those of one row relatively to those of the other row inclined rectangular spaces k will be provided between the inclined extensions c of the two rows into which the ends of the louvres i fit, the distance pieces a being adjusted so that the ends of the louvres i bear on the opposed edges of each pair of staggered distance pieces a , a . The dimensions of the distance pieces a are such that when in position the vertical edges of the bases b of the distance pieces in each row abut, the inclined angular spaces formed between the inclined projections c being then just sufficient to receive the ends j of the louvres i and to hold them in the desired angular position.

In the case of large louvre assemblies it may be desirable to stiffen the louvres between the side bearers. This can be simply effected by using the same distance pieces and bearers but inverting the arrangement, i. e. first inserting the inclined projections between the already assembled louvres and then sliding the grooved bearer on to the aligned bases of the distance pieces.

If the distance pieces are made in a single comb-like member m the teeth corresponding to the inclined projections, two such comb-like members may be slidden into a single groove, so that the teeth or projections of one member are staggered relatively to those of the other. Alternatively, only one such comb-like member may be employed, the ends of the louvres then fitting in the spaces between each pair of projections.

The general shape of the louvre assemblies may be substantially truncated sector-shape as described in the prior specification above referred to, which shape is suitable for hyperboloidal or round towers.

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

1. In a water cooling tower, louvres and means

for mounting the ends of the louvres between distance pieces which are slidably fitted in grooves in bearer members.

2. In a water cooling tower, louvres and means for mounting the ends of the louvres according to claim 1 the distance pieces being generally of distorted T-shape, the leg or projection being at an angle other than a right angle to the base, this angle corresponding to the angle at which the louvres are to be laid on the bearers.

3. In a water cooling tower, louvres and means for mounting the ends of the louvres according to claim 1, grooves in the bearer members which have a width corresponding to twice the thickness of the distance pieces whereby the horizontal bases may be arranged in the grooves so as slightly to overlap, the angularly disposed limbs of the overlapping bases being staggered so that the ends of the baffles can engage in the inclined spaces disposed between the angularly disposed projections of the distance pieces.

4. In a water cooling tower, louvres and means for mounting the ends of the louvres according to claim 1, the end distance pieces on the bearers being rigidly fixed in position on the bearers in order to maintain the whole assembly rigid.

5. In a water cooling tower, louvres and means for mounting the ends of the louvres according to claim 1, stiffening members comprising distance pieces, angularly disposed projections being passed downwardly between the louvres and horizontal parts being engaged in a groove provided in a bar.

6. In a water cooling tower, louvres and means for mounting the ends of the louvres according to claim 1, distance pieces of comb-like construction, the teeth forming the distance pieces being suitably inclined to the continuous part.

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