## SPECIFICATIONS FOR SIDEWALKS

### BY GEO. L. STANLEY.

3" thick.

thick.

thick.

thick.

thick.

long.

long.

and gravel.

the voids.

walks are :

should contain not over :

20 sq. ft. when the walk is 51/2 in.

25 sq. ft. when the walk is 6 in.

Residence districts where the

6 ft. wide, in thick at the centre,

the blocks may be 6 ft. long. 6 ft. wide, 41/2 in. thick at the

centre, the blocks may be 5ft. long.

center, the blocks may be 5 ft. long. 5 ft. wide, 4 in. thick at the

center, the blocks may be 5 ft. long.

41/2 ft. wide, 4 in. thick at the

4 ft. wide, 4 in. thick at the

4 ft. wide 31/2 in. thick at the

Other widths, less than the

center, the blocks may be 4 ft. long.

center, the blocks may be 4 ft. long.

above, 4 in. thick at the center, the

Other width,  $3\frac{1}{2}$  in. thick at the center, the blocks may be  $3\frac{1}{2}$  ft.

SPECIFICATIONS FOR CONCRETE.

size to be not over 1 in. and all un-

der 1/8 in. to be considered sand.

Proportions to be one part high grade Portland cement

parts, clean, hard gravel and sand

enough to fill the voids, which

makes the proportions as most

gravel will measure after being

filled with sand, one part cement to

five of the whole aggregate sand

Bottom coat srushed stone. The

size of broken stone should not be

larger than 3/4 in. and vary in size

to 1/4 in., and free from fine screen-

ings and dust or soft stone. Pro-

portions to be one part high grade

Portland cement, two parts clean aed sharp sand and four parts

broken stone, or what is termed by

consulting engineers and concrete

experts one part of cement to four

of stone, and sand enough to fill

en stone should be done by placing

stone in the mixing box or on the

platform first, then spread the

sand evenly over the stone and in

Mixing of both gravel and brok-

to four

Bottom coat gravel. The largest

blocks may be 4 ft. long.

center, the blocks may be 41/2 ft.

5 ft. wide, 41/2 in. thick at the

#### FOUNDATIONS.

The ground base should be made as solid and permanent as possible. Where excavations or fills are made, all wood or other materials which will decompose should be removed and replaced with earth or other filling like the rest of the foundation.

Fills of clay or other material which will settle after heavy rains or deep freezing should be tamped solid in layers not more than 6 in. in thickness, so as to ensure a solid embankment which will remain firm after the walk is laid.

Embankments should not be less than 21/2 ft. wider than the walk which is to be built. When porous material, such as coal ashes, granulated slag or gravel is used under drains, agricultural tile should be laid to the curb drains or gutters, so as to prevent water accumulating and freezing under the walk and breaking the blocks.

The position of shade trees should not be less than 4 ft. from the walk. Carolina poplar, elm or other shade trees whose roots run near the surface of the ground should not be less than 10 ft. from the walk.

Line and grades should be given by a civil engineer; the stakes to be not over 25 ft. apart and far enough from the walk line so that an inspector may see that the walk is laid to line and grade.

The mould strips should be firmly blocked under the ends and the centre of the strips and carefully straight-edged, care being taken that the strips are parallel with the engineer's line and the height of the grade stakes. The walks should be laid with a drop of  $\frac{1}{4}$  of an inch to the foot towards the curb gutter.

#### SPECIFICATIONS FOR THICKNESS.

The thickness of the walk should be determined by the location, the amount of travel and danger of being broken by heavy bodies falling on it, or frost.

Business front walks should not be less than 4 in. thick, and may be 6 in. thick with profit. The top coat of business walks should not be less than 11/4 in. thick.

In residence districts the top coat should not be less than I in. wearing thickness, and the thickness for different widths of walks should be as follows :

6' wide, the minimum at the centers should be 41/2 in. thick ; at thee dges, 4 in. thick. 5' wide, the minimum at the

centers should be 4" thick ; at the edges, 31/2" thick.

 $4\frac{1}{2}$  wide, the minimum at the centers should be  $3\frac{3}{4}$  thick; at the edges, 31/2" thick.

4' wide, the minimum at the

like manner the cement over the sand. Then cut through from top centers should be 31/2" thick ; at the edges, 3" thick. All other widths less than the to bottom in thin slices, which will insure an even mix. Then turn above, the minimum at the centers should be  $3\frac{1}{2}$ " thick; at the edges, insure an even mix. with hoe or shovel twice before adding water, which should be done with a sprinkler and hoed over as sprinkled. The batch should be Sizes of blocks may be determined by the width and thickness of the walk. Business front walks turned at least once after the water is applied. The amount of water used in the bottom coat should be 12 sq. ft. when the walks is 4 in. only enough to make it, when firm-16 sq. ft. when the walk is 5 in. ly tamped, solid and not "quaky."

Top Coat. Proportions, three parts high grade Portland cement and five parts clean, sharp sand mixed dry and screened through a No. 4 sieve. In the top coat the amount of water used should be just enough so that the surface of the walk can be tamped, struck off, floated and finished within 20 minutes after it is spread on the bottom coat and when finished it should be solid and not "quaky." An edger of not less than 1 in. radius should be used on the outer edges of the walk.

Separation of the blocks should be done with a spud not over 6 in. wide and 1/4 in. thick and to insure complete separation the groove should be cut through into the ground base. Fill the groove with dry sand before the top coat is spread and the top coat should be cut through to the sand after floating and troweling and a jointer run in the groove; then again draw a trowel through the groove so as to insure a complete separation of the blocks.

The protection of newly finished walks from storms can be accomplished by covering with roofing paper or canvas. Canvas should never be laid on the walk, but stretched over on a slant so as to run the water off.

Grading after the walks are ready for use should be on the curb side of the walk 11/2 in. lower than the walk and not less than 1/4 in. to the foot fall towards the curb or gutters. On the property side of the walk the ground should be graded back at least 2 ft. and not lower than the walk, which will insure the frost throwing the walk alike on both sides.

Water rates to contractors at Winnipeg have been increased by 100 per cent.

Mr. J. J. Mal.affy, Village Clerk of Streetsville, Ont., has resigned and is removing to Regina.

Mr. J. L. Thomas, C.E., of London, Ont, has been appointed engineer for the township of Tuckersmith.

March 27, 1907

JOH WATER

15 TORON

Α. Cons WAT so St. J Metropolit

STE

# JEN

## STEE STRU CO





Othe

March 2