

ABSTRACT

TITLE OF THE INVENTION:

MULTI-TIERED SOCKET JOINT, STEEL PIPE WITH JOINT,
5 STRUCTURE, METHOD OF INSTALLING STRUCTURE, AND METHODS OF
DESIGNING AND MANUFACTURING MULTI-TIERED SOCKET JOINT

An object is to provide a multi-tiered socket joint, a
steel pipe with a joint, a structure, a method of
10 installing the structure, methods of designing and
manufacturing the multi-tiered socket joint that exhibit
excellent workability when the steel pipes are to be
joined, by preventing a projection from becoming meshed
with a recess that is not a target to be engaged at the
15 time of insertion. In a multi-tiered socket joint 1, one
of an inner joint pipe 3 and a cylindrical outer joint pipe
5 includes a split cylindrical portion 11 having a
plurality of split pieces 9, and projections 13 provided in
a plurality of tiers on the split pieces 9; and the other
20 has a cylindrical portion 17 and recesses 19 that are
provided in a plurality of tiers on the cylindrical portion
17. Steel pipes 7 are joined by engaging the projections
13 and the recesses 19, respectively. The plurality of
tiers of the projections 13 have axial widths gradually
25 becoming smaller from the projection 13 on the tip-end side
toward the projection 13 on the base-end side. The
plurality of tiers of the recesses 19 have axial widths
gradually becoming smaller from the recess 19 on the base-
end side toward the recess 19 on the tip-end side. The
30 axial width of each of the projections 13 has a size equal
to or larger than the axial width of the recess 19 that is
on the tip-end side with respect to a recess 19 with which
the projection 13 is to be engaged when the joints are

fitted.

(FIG. 1)