[Document name] Claims

1. A clip that fixes a ceiling joist intersecting a ceiling joist receiver to the ceiling joist receiver, the clip comprising:

a top portion having a width of the ceiling joist receiver;

a first hanging portion hanging down from one end of the top portion, and provided with, at a lower portion, first engaging projections extending left and right to engage the ceiling joist; and

a second hanging portion hanging down from another end of the top portion, and provided with, at a lower portion, second engaging projections extending left and right to lock the ceiling joist,

wherein the first hanging portion has a length longer than that of the second hanging portion, and

wherein a recess extending in a direction toward the second hanging portion is provided at an intermediate position of the first hanging portion.

2. A clip as claimed in claim 1, ~~that fixes a ceiling joist intersecting a ceiling joist receiver to the ceiling joist receiver, the clip comprising:~~

~~a top portion having a width of the ceiling joist receiver;~~

~~a first hanging portion hanging down from one end of the top portion, and provided with, at a lower portion, first engaging projections extending left and right to engage the ceiling joist; and~~

~~a second hanging portion hanging down from another end of the top portion, and provided with,~~

~~at a lower portion, second engaging projections extending left and right to lock the ceiling joist,~~

wherein only the first engaging projections are provided with engaging recesses recessed downward at a root portion from which the first engaging projections extend.

~~3. A clip that fixes a ceiling joist intersecting a ceiling joist receiver to the ceiling joist receiver, the clip comprising:~~

~~a top portion having a width of the ceiling joist receiver;~~

~~a first hanging portion hanging down from one end of the top portion, and provided with, at a lower portion, first engaging projections extending left and right to engage the ceiling joist; and~~

~~a second hanging portion hanging down from another end of the top portion, and provided with, at a lower portion, second engaging projections extending left and right to lock the ceiling joist,~~

~~wherein the first hanging portion has a length longer than that of the second hanging portion,~~

~~wherein a recess extending in a direction toward the second hanging portion is provided at an intermediate position of the first hanging portion, and~~

~~wherein only the first engaging projections are provided with engaging recesses recessed downward at a root portion from which the first engaging projections extend.~~

~~4~~3. The clip as claimed in claim 1~~ or 3~~, wherein the recess provided at the intermediate position of the first hanging portion is a recess having a groove shape.

~~5~~4. The clip as claimed in claim 2~~ or 3~~, wherein a reinforcing rib is provided outside of the engaging recesses.

~~6~~5. The clip as claimed in any one of claims 1 to ~~5~~4, wherein both the first hanging portion and the second hanging portions have a width at a lower portion narrower than a width at an upper portion, and are provided with the first engaging projections and the second engaging projections at the respective lower portions, wherein a width of the upper portion is the same or substantially the same as a width of the first engaging projections and a width of the second engaging projections, the first engaging projections and the second engaging projections extending left and right at the lower portions.

~~7~~6. The clip as claimed in any one of claims 1 to ~~6~~5, wherein the first engaging projections extending left and right at the lower portion have edges inclined inward while going downward toward the lower end of the first hanging portion, and

wherein the second engaging projections extending left and right at the lower portion have

edges inclined inward while going downward toward the lower end of the second hanging portion.

~~8~~7. The clip as claimed in any one of claims 1 to ~~7~~6, wherein each of the top portion, the first hanging portion, and the second hanging portion is provided with a reinforcing projection.

~~9~~8. A ceiling base comprising:

a ceiling joist receiver formed of channel steel with lips, the channel steel having a web and two flanges each having a lip, the ceiling joist receiver being suspended from a frame of a building, in a state of having an opening face sideward;

a ceiling joist formed of channel steel with lips, the channel steel having a web and two flanges each having a lip, the ceiling joist coming into contact with the ceiling joist receiver while crossing the ceiling joist receiver, in a state of having an opening face upward; and

a clip to fix the ceiling joist to the ceiling joist receive,

wherein the clip includes

a top portion having a width of the ceiling joist receiver,

a first hanging portion hanging down from one end of the top portion, and provided with, at a lower portion, first engaging projections extending left and right to engage the ceiling joist, and

a second hanging portion hanging down from another end of the top portion, and provided with,

at a lower portion, second engaging projections extending left and right to lock the ceiling joist,

wherein the first hanging portion has a length longer than that of the second hanging portion,

wherein the clip is fitted into the ceiling joist receiver from above, so as to have the first hanging portion cover part of the opening of the ceiling joist receiver, and

wherein the first engaging projections and the second engaging projections extending left and right are engaged or locked with the two flanges of the ceiling joist.

~~10~~9. The ceiling base as claimed in in claim ~~9~~8, wherein only the first engaging projections of the clip are provided with engaging recesses recessed downward at a root portion from which the first engaging projections extend,

wherein each of the lips has a folded portion at a tip, and

wherein the first engaging projections are engaged with the respective flanges in a state of the folded portions being fitted into the engaging recesses.

~~11~~10. A method of constructing a ceiling base that includes

a ceiling joist receiver formed of channel steel with lips, the channel steel having a web and two flanges each having a lip, the ceiling joist

receiver being suspended from a frame of a building, in a state of having an opening face sideward,

a ceiling joist formed of channel steel with lips, the channel steel having a web and two flanges each having a lip, the ceiling joist coming into contact with the ceiling joist receiver while crossing the ceiling joist receiver, in a state of having an opening face upward, and

a clip to fix the ceiling joist to the ceiling joist receiver,

wherein the clip includes

a top portion having a width of the ceiling joist receiver,

a first hanging portion hanging down from one end of the top portion, and provided with, at a lower portion, first engaging projections extending left and right to engage the ceiling joist, and

a second hanging portion hanging down from another end of the top portion, and provided with, at a lower portion, second engaging projections extending left and right to lock the ceiling joist,

wherein the first hanging portion has a length longer than that of the second hanging portion, and

wherein a recess extending in a direction toward the second hanging portion is provided at an intermediate position of the first hanging portion,

the method of constructing the ceiling base, comprising:

fitting the clip with the ceiling joist receiver from above, so as to have the first hanging portion cover part of the opening of the ceiling joist receiver, and during a course of the fitting,

when the recess provided in the first hanging portion is caught by a corner portion of an upper flange in the ceiling joist receiver, a lower end of the first hanging portion comes contact with the lip of a lower flange of the ceiling joist receiver, and

fitting the ceiling joist into the clip from a bottom of the clip so as to have the first engaging projections and the second engaging projections extending left and right, engaged or locked with the two flanges of the ceiling joist each having the lip, so as to fix the ceiling joist to the ceiling joist receiver with the clip.