CLAIMS

1. A formed material manufacturing method for manufacturing a formed material having a tubular trunk portion and a flange portion formed on an end portion of the trunk portion, by performing at least two forming processes on a raw material metal plate,

wherein the at least two forming processes include at least one drawing-out process and at least one drawing process performed after the drawing-out process,

the drawing-out process is performed using a mold that includes a punch and a die having a pushing hole,

a width of a rear end side of the punch is set to be wider than a width of a tip end side thereof so that a clearance between the die and the punch when the punch is pushed into the pushing hole in the die is narrower on the rear end side than on the tip end side, and

ironing is performed on a region of the raw material metal plate corresponding to the flange portion by pushing the raw material metal plate into the pushing hole together with the punch during the drawing-out process,

and wherein a width variation portion constituted by an inclined surface on which a width of the punch varies continuously is provided between the tip end side and the rear end side of the punch, and the width variation portion is disposed in contact with a region corresponding to a shoulder portion formed between a peripheral wall of the trunk portion and the flange portion.

2. The formed material manufacturing method according to claim 1, wherein an ironing rate of the ironing is 50% or lower.

~~3. The formed material manufacturing method according to claim 1 or 2, wherein a width variation portion constituted by an inclined surface on which a width of the punch varies continuously is provided between the tip end side and the rear end side of the punch.~~

~~4. The formed material manufacturing method according to claim 3, wherein the width variation portion is disposed in contact with a region corresponding to a shoulder portion formed between a peripheral wall of the trunk portion and the flange portion.~~

35. The formed material manufacturing method according to claim 1 or 2 ~~any one of claims 1 to 4~~, characterized in that a plate thickness of the flange portion of the formed material is set to be thinner than a plate thickness of the raw material metal plate.

46. A formed material manufactured by performing at least two forming processes on a raw material metal plate, the formed material having a tubular trunk portion and a flange portion formed on an end portion of the trunk portion, and the at least two forming processes including at least one drawing-out process and at least one drawing process performed after the drawing-out process,

wherein a plate thickness of the flange portion is thinner

than a plate thickness of a peripheral wall of the trunk portion by performing ironing on only a region of the raw material metal plate corresponding to the flange portion and a shoulder portion formed between the peripheral wall of the trunk portion and the flange portion during the drawing-out process.

57. A formed material manufactured by performing at least two forming processes on a raw material metal plate, the formed material having a tubular trunk portion and a flange portion formed on an end portion of the trunk portion, and the at least two forming processes including at least one drawing-out process and at least one drawing process performed after the drawing-out process,

wherein a plate thickness of the flange portion is thinner than a plate thickness of the raw material metal plate by performing ironing on only a region of the raw material metal plate corresponding to the flange portion and a shoulder portion formed between a peripheral wall of the trunk portion and the flange portion during the drawing-out process.