of the punching press is conducted through the flow channels (10a-10f).

7. Method according to one of the preceding claims, wherein a clamping plate arranged on the machine bed exists, which clamping plate is heated, for warping the machine bed in the direction towards the press ram due to a heating of it by the clamping plate at its side facing the ram and/or for warping the machine bed in the direction towards the press ram due to an introduction of shear forces produced by a thermal expansion of the clamping plate into the side of the machine bed facing the ram.

8. Method according to one of the preceding claims, wherein a clamping plate (4) arranged on the machine bed (5) exists and a heating device (11) arranged between the machine bed (5) and the clamping plate (4), which is heated, for warping the machine bed (5) in the direction towards the press ram (2) due to a heating of it by the heating device (11) at its side facing the ram (2) and/or for warping the machine bed (5) in the direction towards the press ram (2) due to a heating of the clamping plate (4) by the heating device (11) and an introduction of shear forces produced by a thermal expansion of the clamping plate (4) into the side of the machine bed (5) facing the ram (2).

9. Method according to one of the preceding claims, wherein the machine bed (5) has an aperture (6b) for carrying away punched parts and rubbish, and wherein the temperature gradient within the machine bed (5) is produced such that the machine bed (5) warps stronger in the area adjacent to the aperture (6b) in the direction towards the press ram (2) ~~than in the areas adjacent to its longitudinal sides.~~

~~10. Method according to claim 2 and to claim 9, wherein the machine bed (5) in the area of its side facing the press ram (2) is heated stronger near to the~~

…than in the areas adjacent to its longitudinal sides.

10. Method according to claim 2 and to claim 9, wherein the machine bed (5) in the area of its side facing the press ram (2) is heated stronger near to the boundaries of the aperture (6b) than near to its longitudinal sides.

11. Method according to claim 3 and according to claim 9, wherein the machine bed in the area of its side facing away from the press ram is cooled stronger near to the boundaries of the aperture than near to its longitudinal sides.

12. Method according to one of the preceding claims, wherein the warping of the machine bed (5) and/or of the press ram (2) is adjusted as a function of parameters of the punching operation, in particular as a function of a calculated or measured maximal punching force, and in particular, wherein the warping is adjusted during the intended operation of the press.

13. Punching press, in particular for conducting the method according to one of the preceding claims, with a machine bed (5) and with a press ram (2) working against the machine bed (5),

wherein means (8, 9a, 9c, 10a-10f; 10a-10l, 11; 12; 11, 12) exist for warping the machine bed (5) in the direction towards the press ram (2) and/or for warping the press ram (2) in the direction towards the machine bed (5) by producing a temperature gradient within the machine bed (5) or a supporting structure (4, 5; 4, 5, 11) for the lower tool elements built with machine bed (5) and/or within the press ram (2) or a supporting structure (2, 11) for the upper tool elements built with the press ram (2),

wherein the means (8, 9a, 9c, 10a-10f) for warping the machine bed and/or the press ram comprise flow channels (10a-10f) arranged within the machine bed (5) and/or within the press ram, which flow channels can

be flown through by a heated or cooled, gaseous or liquid medium (8) for producing the temperature gradient during the intended operation of the press and

wherein the press comprises a lubricating oil circuit and the means for warping the machine bed and/or the press ram comprise arrangements, by means of which heated lubricating oil of the lubricating oil circuit can be passed through the flow channels during the intended operation of the press.

14. Punching press according to claim 13, wherein the means (8, 9a, 9c, 10a-10f; 10a-10l, 11; 12; 11, 12) for warping the machine bed (5) and/or the press ram (2) are built to heat the machine bed (5) in the area of its side facing the press ram (2) and/or to heat the press ram (2) in the area of its side facing the machine bed (5).

15. Punching press according to claim 14, wherein the means for warping the machine bed and/or the press ramp (2) comprise electric heating elements (12) arranged within the machine bed and/or the press ram (2), which heating elements can be charged with electric current during the intended operation of the press, for producing the temperature gradient.

16. Punching press according to one of the claims 13 to 15, wherein the means for warping the machine bed and/or the press ram are built for cooling the machine bed in the area of its side facing away from the press ram and/or for cooling the press ram in the area of its side facing away from the machine bed.

17. Punching press according to one of the claims 13 to 16, wherein the punching press comprises means for warping the machine bed and wherein a clamping plate is arranged on the machine bed, which can be heated with the means for warping the machine bed during the intended operation of the press, for producing the temperature gradients by heating the machine bed at its side facing the ram by the clamping plate.

18. Punching press according to one of the claims 13 to 17, wherein the punching press comprises means for warping the machine bed and wherein a clamping plate (4) is arranged on the machine bed (5), which clamping plate can be heated by the means (8, 9a, 9c, 10a-10f; 10a-10l, 11) for warping the machine bed (5) during the intended operation of the press and which clamping plate is connected with the machine bed (5) such that it can transfer shear forces to the machine bed (5), for warping the machine bed (5) in the direction towards the press ram (2) due to an introduction of shear forces produced by a thermal expansion of the clamping plate (4) into the side of the machine bed (5) facing the ram (2).

19. Punching press according to claim 18, wherein a thermal insulation layer exists between the clamping plate and the machine bed, for reducing a heat transfer from the clamping plate to the machine bed.

20. Punching press according to one of the claims 13 to 19, wherein the punching press comprises means for warping the machine bed and wherein a clamping plate (4) is arranged on the machine bed (5) and wherein the means (10a-10l, 11) for warping the machine bed (5) comprise a heating device (11) arranged between the machine bed (5) and the clamping plate (4), which can be operated during the intended operation of the press, for warping the machine bed (5) due to a heating of it at its side facing the ram (2).

21. Punching press according to one of the claims 13 to 20, wherein the punching press comprises means for warping the machine bed and wherein a clamping plate (4) is arranged on the machine bed (5), which is connected with the machine bed (5) such that it can transfer shear forces to the machine bed (5), and wherein the means (10a-101, 11) for warping the machine bed (5) comprise a heating device (11) arranged between the machine bed (5) and the clamping plate (4), which heating device can be operated during the intended operation of

the press, for warping the machine bed (5) in the direction towards the press ram (3) due to an introduction of shear forces produced by a thermal expansion of the clamping plate (4) into the side of the machine bed (5) facing the ram (2).

22. Punching press according to one of the claims 13 to 21, wherein the punching press comprises means for warping the machine bed and wherein the machine bed (5) has an aperture (6B) for carrying away punched parts and rubbish, and wherein the means (8, 9a, 9c, 10a-10f; 10a-10l, 11) for warping the machine bed (5) are built such that they warp the machine bed stronger in the area adjacent to the aperture (6b) than in the areas adjacent to the longitudinal sides of the machine bed (5).

23. Punching press according to claim 14 and according to claim 22, wherein the means (8, 9a, 9c, 10a-10f; 10a-10l, 11) for warping the machine bed (5) are built to heat the machine bed (5) in the area of its side facing the press ram (2) near to the boundaries of the aperture (6b) or to heat it stronger in that area than near to its longitudinal sides, respectively.

24. Punching press according to claim 14 and according to claim 23, wherein the means for warping the machine bed are built to cool the machine bed in the area of its side facing away from the press ram near to the boundaries of the aperture or to cool it stronger in this area than near to its longitudinal sides, respectively.

25. Punching press according to one of the claims 13 to 24, wherein the means for warping the machine bed (5) and/or the press ram (2) are built adjustable, in particular during the intended operation of the press, for enabling a selective adjustment of the warping of the machine bed (5) and/or of the warping of the press ram (2).

26. Punching press according to one of the claims 13 to 25, wherein the punching press comprises a press control unit, by means of which the warping of the

machine bed (5) and/or of the press ram (2), in particular automatically, in function of parameters of the punching process can be adjusted, in particular in function of a calculated or measured maximal punching force, and in particular can be adjusted during the intended operation of the press.

…than in the areas adjacent to its longitudinal sides.

10. Method according to claim 2 and to claim 9, wherein the machine bed (5) in the area of its side facing the press ram (2) is heated stronger near to the boundaries of the aperture (6b) than near to its longitudinal sides.

11. Method according to claim 3 and according to claim 9, wherein the machine bed in the area of its side facing away from the press ram is cooled stronger near to the boundaries of the aperture than near to its longitudinal sides.

12. Method according to one of the preceding claims, wherein the warping of the machine bed (5) and/or of the press ram (2) is adjusted as a function of parameters of the punching operation, in particular as a function of a calculated or measured maximal punching force, and in particular, wherein the warping is adjusted during the intended operation of the press.

13. Punching press, in particular for conducting the method according to one of the preceding claims, with a machine bed (5) and with a press ram (2) working against the machine bed (5),

wherein means (8, 9a, 9c, 10a-10f; 10a-10l, 11; 12; 11, 12) exist for warping the machine bed (5) in the direction towards the press ram (2) and/or for warping the press ram (2) in the direction towards the machine bed (5) by producing a temperature gradient within the machine bed (5) or a supporting structure (4, 5; 4, 5, 11) for the lower tool elements built with machine bed (5) and/or within the press ram (2) or a supporting structure (2, 11) for the upper tool elements built with the press ram (2),

wherein the means (8, 9a, 9c, 10a-10f) for warping the machine bed and/or the press ram comprise flow channels (10a-10f) arranged within the machine bed (5) and/or within the press ram, which flow channels can

be flown through by a heated or cooled, gaseous or liquid medium (8) for producing the temperature gradient during the intended operation of the press and

wherein the press comprises a lubricating oil circuit and the means for warping the machine bed and/or the press ram comprise arrangements, by means of which heated lubricating oil of the lubricating oil circuit can be passed through the flow channels during the intended operation of the press.

14. Punching press according to claim 13, wherein the means (8, 9a, 9c, 10a-10f; 10a-10l, 11; 12; 11, 12) for warping the machine bed (5) and/or the press ram (2) are built to heat the machine bed (5) in the area of its side facing the press ram (2) and/or to heat the press ram (2) in the area of its side facing the machine bed (5).

15. Punching press according to claim 14, wherein the means for warping the machine bed and/or the press ramp (2) comprise electric heating elements (12) arranged within the machine bed and/or the press ram (2), which heating elements can be charged with electric current during the intended operation of the press, for producing the temperature gradient.

16. Punching press according to one of the claims 13 to 15, wherein the means for warping the machine bed and/or the press ram are built for cooling the machine bed in the area of its side facing away from the press ram and/or for cooling the press ram in the area of its side facing away from the machine bed.

17. Punching press according to one of the claims 13 to 16, wherein the punching press comprises means for warping the machine bed and wherein a clamping plate is arranged on the machine bed, which can be heated with the means for warping the machine bed during the intended operation of the press, for producing the temperature gradients by heating the machine bed at its side facing the ram by the clamping plate.

18. Punching press according to one of the claims 13 to 17, wherein the punching press comprises means for warping the machine bed and wherein a clamping plate (4) is arranged on the machine bed (5), which clamping plate can be heated by the means (8, 9a, 9c, 10a-10f; 10a-10l, 11) for warping the machine bed (5) during the intended operation of the press and which clamping plate is connected with the machine bed (5) such that it can transfer shear forces to the machine bed (5), for warping the machine bed (5) in the direction towards the press ram (2) due to an introduction of shear forces produced by a thermal expansion of the clamping plate (4) into the side of the machine bed (5) facing the ram (2).

19. Punching press according to claim 18, wherein a thermal insulation layer exists between the clamping plate and the machine bed, for reducing a heat transfer from the clamping plate to the machine bed.

20. Punching press according to one of the claims 13 to 19, wherein the punching press comprises means for warping the machine bed and wherein a clamping plate (4) is arranged on the machine bed (5) and wherein the means (10a-10l, 11) for warping the machine bed (5) comprise a heating device (11) arranged between the machine bed (5) and the clamping plate (4), which can be operated during the intended operation of the press, for warping the machine bed (5) due to a heating of it at its side facing the ram (2).

21. Punching press according to one of the claims 13 to 20, wherein the punching press comprises means for warping the machine bed and wherein a clamping plate (4) is arranged on the machine bed (5), which is connected with the machine bed (5) such that it can transfer shear forces to the machine bed (5), and wherein the means (10a-101, 11) for warping the machine bed (5) comprise a heating device (11) arranged between the machine bed (5) and the clamping plate (4), which heating device can be operated during the intended operation of

the press, for warping the machine bed (5) in the direction towards the press ram (3) due to an introduction of shear forces produced by a thermal expansion of the clamping plate (4) into the side of the machine bed (5) facing the ram (2).

22. Punching press according to one of the claims 13 to 21, wherein the punching press comprises means for warping the machine bed and wherein the machine bed (5) has an aperture (6B) for carrying away punched parts and rubbish, and wherein the means (8, 9a, 9c, 10a-10f; 10a-10l, 11) for warping the machine bed (5) are built such that they warp the machine bed stronger in the area adjacent to the aperture (6b) than in the areas adjacent to the longitudinal sides of the machine bed (5).

23. Punching press according to claim 14 and according to claim 22, wherein the means (8, 9a, 9c, 10a-10f; 10a-10l, 11) for warping the machine bed (5) are built to heat the machine bed (5) in the area of its side facing the press ram (2) near to the boundaries of the aperture (6b) or to heat it stronger in that area than near to its longitudinal sides, respectively.

24. Punching press according to claim 14 and according to claim 23, wherein the means for warping the machine bed are built to cool the machine bed in the area of its side facing away from the press ram near to the boundaries of the aperture or to cool it stronger in this area than near to its longitudinal sides, respectively.

25. Punching press according to one of the claims 13 to 24, wherein the means for warping the machine bed (5) and/or the press ram (2) are built adjustable, in particular during the intended operation of the press, for enabling a selective adjustment of the warping of the machine bed (5) and/or of the warping of the press ram (2).

26. Punching press according to one of the claims 13 to 25, wherein the punching press comprises a press control unit, by means of which the warping of the

machine bed (5) and/or of the press ram (2), in particular automatically, in function of parameters of the punching process can be adjusted, in particular in function of a calculated or measured maximal punching force, and in particular can be adjusted during the intended operation of the press.