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MANUFACTURE OF HIGH SPEED STEELS

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2 Claims. (Cl. 75—126)

The present invention relates to steels intended for the manufacture of high speed machining tools, this application being a division of our Patent No. 2,159,086. According to the invention such tools are made of steel alloys which contain from 0.6 to 1.0% carbon, from 1.0 to 6.0% chromium, from 1.0 to 6.0% molybdenum, from 1.0 to 3.0% vanadium and tungsten in a quantity amounting at least to 50% of the molybdenum content and ranging from 1.0 to 4.0%, the remainder substantially all iron with the normal impurities.

Steels of a composition as specified hereinbefore although they contain only small percentages of alloying constituents are distinguished by a high efficiency in the chip-removing working of materials and can be equal in this respect even to the high alloy high speed tungsten steels or, under favorable cutting conditions, even be superior to them. The best results are obtained by steels which contain the alloying constituents within the following limits: Carbon from 0.6 to 1.0%, chromium from 3.0 to 6.0%, molybdenum from 2.0 to 4.0%, vanadium from 2.0 to 3.0% and tungsten from 1.0 to 4% as stated above.

What we claim and desire to secure by Letters Patent is:

1. High speed steels composed of 0.6–1.0% carbon, 1.0–6.0% chromium, more than 1.0% and less than 5.0% molybdenum, 1.0–3.0% vanadium, and tungsten in a quantity amounting at least to 50% of the molybdenum content and ranging from 1.0–4.0%, remainder substantially all iron with the normal impurities.

2. High speed steels composed of 0.6–1.0% carbon, 3.0–6.0% chromium, 2.0 to 4.0% molybdenum, 2.0–3.0% vanadium and tungsten in a quantity amounting at least to 50% of the molybdenum content and ranging from 1.0–4.0%, remainder substantially all iron with the normal impurities.

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