

Wooden Crane from the Time of Wenceslas IV Public Building of the Replica of the Medieval Crane Based on Illustrations from the Wenceslas IV Bible from 1390 – 1400 Prague Castle 2006

Wooden machines powered by human walk accompany our civilization since time immemorial. Their practical use has been depicted since the time of ancient Rome. Development of these machines is probably connected with development of new scientific disciplines – geometry and mechanics – in ancient Greece.

Expansion of using cranes with wheels to walk in came up in the Middle Ages in connection with Gothic architectural style and development of trade. Cranes placed in the crowns of partially built cathedrals used to be dominant features of medieval towns for long decades. Therefore we can often find them in period illustrations in manuscripts, town plans and maps. Since the beginning of the 20th century wooden cranes powered by humans were used to transfer goods in ports and markets.

The cage crane from the Wenceslas IV Bible is a unique illustration of a crane suspended on a frontage. The system of its construction proves exceptional technical development of the Prague royal workshop towards the close of the 14th century.

For the first time in our modern history it is the aim of our project to make a replica of the cage crane, typical for the territory of Central Europe in the time of the reign of the last of the Luxembourgs. Several replicas of these ingenious machines have been built during recent decades in the world. However they are mainly replicas of newer cranes built by contemporary technologies and tools.

Our crane is designed on the basis of idea reconstruction based on illustrations from Wenceslas IV Bible and knowledge acquired from the research of iconographic sources and preserved historical wheels at home and abroad. All the construction is consistently made by medieval technologies using replicas of historical tools. The trees have been individually selected and chopped down with axes in the forests near the town of Hluboká nad Vltavou. The construction of the crane is designed and outlined in the scale 1:1 with the help of the hypothetically renewed medieval project technique. All the beams are hand-hewn, planks and boards are cut with hand frame saw. Constituent elements of the construction are bound together with historical carpenter's joints.

After the crane is presented at Prague Castle it will be transferred to Točnick Castle, where it will be used during the reconstruction of the roof frame of the Royal Palace. It will become a part of the castle exposition after accomplishing its practical purpose.

Technical parameters of the crane:

Ground plan of the cage 3.70 x 3.70 m

Pole height 9.70 m (11.0 m with the base)

Shoulder reach 3.00 – 5.20 m

Crane weight without people and load 35 kN (3500 kg)

Maximum load weight 10 kN (1000 kg)

Construction Schedule at St George's Square at Prague Castle:

- Public building of the crane.....3.4. – 28.4.2006
- Raising and testing of the crane (international workshop).....1.5. – 7.5.2006
- Presentation of the crane.....8.5. – 1.10.2006