Claims

1. A device for determining the location of a first mechanical element (10, 156) and a second mechanical element (12, 154) with respect to each other, with a first measurement unit (14, 114, 214) for positioning at the first mechanical element, a second measurement unit (18, 118, 218) for positioning at the second mechanical element, and an analysis unit (22);

wherein the first measurement unit is configured and arranged (24, 124, 224) for producing a light beam bundle (28, 128, 228);

wherein the second measurement unit has a scattering surface (34, 134, 234) for scattering of the light impinging on the scattering surface, a camera (36) configured and arranged to take pictures of the side of the scattering surface facing the first measurement unit;

wherein the scattering surface faces the first measurement unit when the measurement units are positioned at the respective mechanical element so as to be impinged on by the light beam bundle;

wherein the analysis unit is designed to determine from the image data supplied by the camera, from the pictures taken by the camera, the position of impingement of the light beam bundle, emitted by the first measurement unit, directly onto the scattering surface without reflection and from it the location of the first mechanical element and the second mechanical element with respect to each other.

2. The device according to claim 1, wherein the camera (36) is arranged laterally displaced with respect to the scattering surface (34, 134, 234).

3. The device according to claim 2, wherein the camera (36) is arranged tilted with respect to the scattering surface (34, 134, 234).