the bolt section into the same position with the other bolt section as the door is being shut or opened. In this case, the side surfaces of the bolt sections form a converging oblique surface. When the bolt is against the striker plate and partially in the opening of the striker plate (or the door is open), the bolt sections are in the position, in which the oblique bolt forms surfaces similar to a deadbolt towards the edge of the counter plate. If the lock has deadlocking means and they are placed to lock the oblique bolt into the extracted position, the bolt sections are not able to turn. If deadlocking means do not lock the oblique bolt, the oblique bolt functions as an oblique bolt in relation to both turning directions of the door.

In these modern types of oblique bolts comparatively great force is directed into the deadlocking means of the lock body, as the bolt sections transmit the force of opening/closing the door to the deadlocking means. Great forces are present particularly when a locked door, in which a lock has been installed and deadlocked, is attempted to be forcibly opened, such as in a burglary situation.

Brief description of the invention

~~The objective~~ Embodiments of the invention ~~is to~~ decrease the external force directed onto the deadlocking means of a door lock provided with an oblique bolt. These kinds of forces are present especially in burglary situations, as was already said above, as well as in emergency exit situations. ~~The objective is achieved in the manner presented in the independent claim. The dependent claims describe different embodiments of the invention. The~~ Embodiments of the invention ~~is~~ are based on the idea that a part of the external force can be guided onto the face plate, wherein onto the deadlocking means is not directed such great stress.

According to an aspect of the present invention, there is provided a door lock comprising a lock body provided with a face plate, having deadlocking means and an oblique bolt, which is to be moved back and forth in a linear movement between a retracted position and an extracted locking position from the lock body through a bolt hole in the face plate and which oblique bolt is spring-loaded towards said extracted position, which oblique bolt comprises a tip part and a body part, which tip part is in the extracted position partially outside from the lock body, which deadlocking means lock in a locking position the oblique bolt into the extracted position and allow in an unlocked position the oblique bolt to move into the retracted position, characterized in that the tip part comprises slanted surfaces on both sides such that the tip part is narrower at its tip than in a back part of the tip part, and the tip part has recesses in its lower part and upper part, which recesses extend from the tip to the back part, both recesses being open at the end of the tip of the tip part and on the other slanted surface such that the recess of the upper part is open on the opposite slanted surface than the recess of the lower part, both of which recesses have a turning piece comprising a bolt projection, which has a counter surface on its first side, and a turning projection, which is arranged to turn the turning piece, when the oblique bolt moves from the retracted position into the extracted position such that the turning projection is against a support surface on the inside of the face plate, and such that the counter surface moves away from the slanted surface of the tip part, the turning piece further comprising a push projection having a push surface and a curved turning surface on another surface of the push projection towards a side surface of the recess, the back part of which tip part has flexing organs and a support piece, which has a counter push surface towards the push surface, and which support piece on is arranged as moveable in relation to the tip part and body part of the bolt and is located between the flexing organs and the turning pieces, and which flexing organs are supported into the body part of the oblique bolt and are against the support piece, which turning pieces are arranged to be with the bolt projection turned outwards from the slanted surfaces in the extracted position of the oblique bolt, and to turn from an external force directed onto the counter surface such that, as the deadlocking means lock the oblique bolt into the extracted position, the push projection pushes the counter push

surface using the push surface, causing the support piece to turn and move towards the flexing organs, until the counter surface of the bolt projection is at least partially in the plane of the slanted surface of the tip part, wherein the external force is directed onto the slanted surface.

A door lock according to embodiments of the invention comprises a lock body provided with a face plate, having deadlocking means and an oblique bolt, which is to be moved back and forth in a linear movement between the retracted position and the extracted locking position from the lock body through the bolt hole in the face plate. The oblique bolt is spring-loaded towards said extracted position, and it comprises a tip part and a body part. The tip part is in the extracted position partially outside from the lock body, and it comprises slanted surfaces on both sides such that the tip part is narrower at its tip than in the back part of the tip part. The tip part has recesses in its lower part and upper part, which extend from the tip to the back part. Both recesses are open at the end of the tip of the tip part and on the other slanted surface such that the recess of the upper part is open on the opposite slanted surface than the recess of the lower part.

Both recesses have a turning piece comprising a bolt projection, which has a counter surface on its first side, and a turning projection, which is arranged to turn the turning piece, when the oblique bolt moves from the retracted position into the extracted position. Turning occurs such that the turning projection is against the support surface on the inside of the face plate, and the counter surface moves away from the slanted surface of the tip part. The turning piece further comprises a push projection having a push surface and, additionally, a curved turning surface on the other surface of the push projection towards the side surface of the recess.

The back part of the tip part has flexing organs and a support piece, which has a counter push surface towards the push surface. The support piece is arranged as moveable in relation to the tip part and the body part of the bolt and is located between

the flexing organs and the turning pieces. The flexing organs are supported into the body part of the oblique bolt and are against the support piece. The turning pieces are arranged to be with the bolt projection turned outwards from the slanted surfaces in the extracted position, and to turn from an external force directed onto the counter surface such that, as the deadlocking means lock the oblique bolt into the extracted position, the push projection pushes the counter push surface using the push surface, causing support piece to turn and move towards the flexing organs, until the counter surface of the bolt projection is in the plane of the slanted surface of the tip part, wherein the exterior force is directed onto the slanted surface.