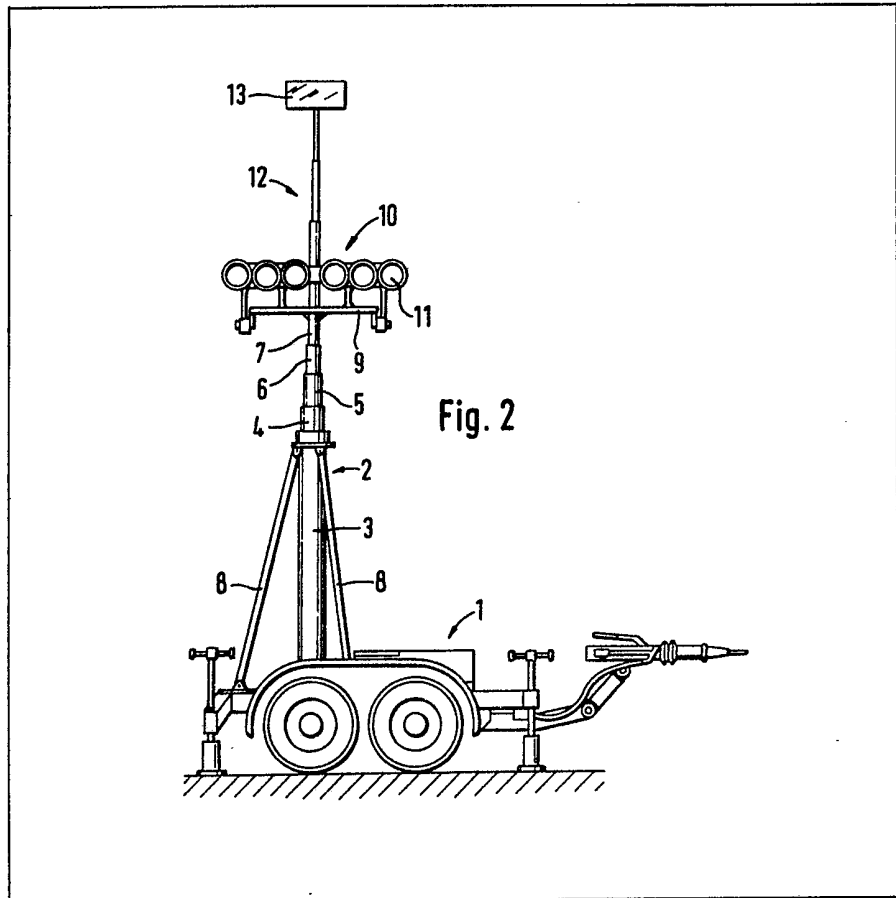


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(54) A weapon system

(57) A weapon system comprises a firing device (10) for firing recoil-less projectiles (11) arranged on a telescopic mast (2) which is power

operable and a second mast (12) pivotally arranged on the telescopic mast (2) and carrying a position finding and fire control device (13), the second mast (12) being adjustable in height independently of the position of the telescopic mast (2).



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Fig. 1

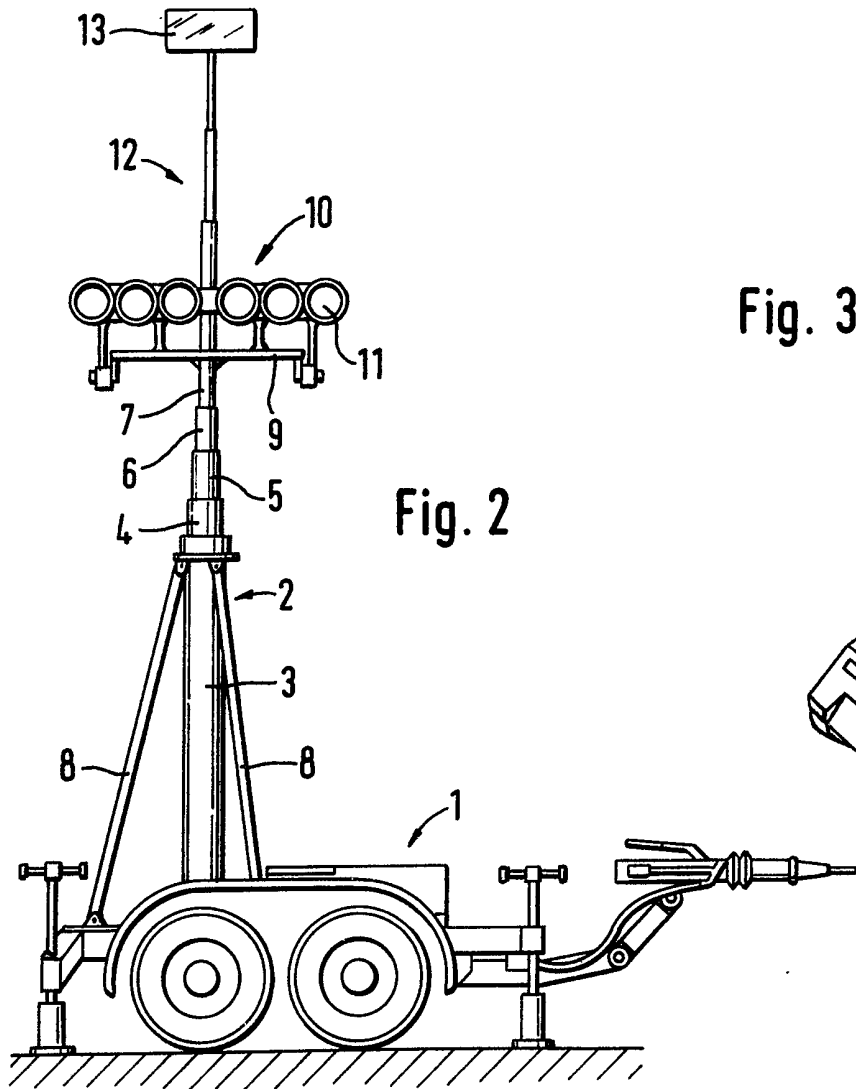
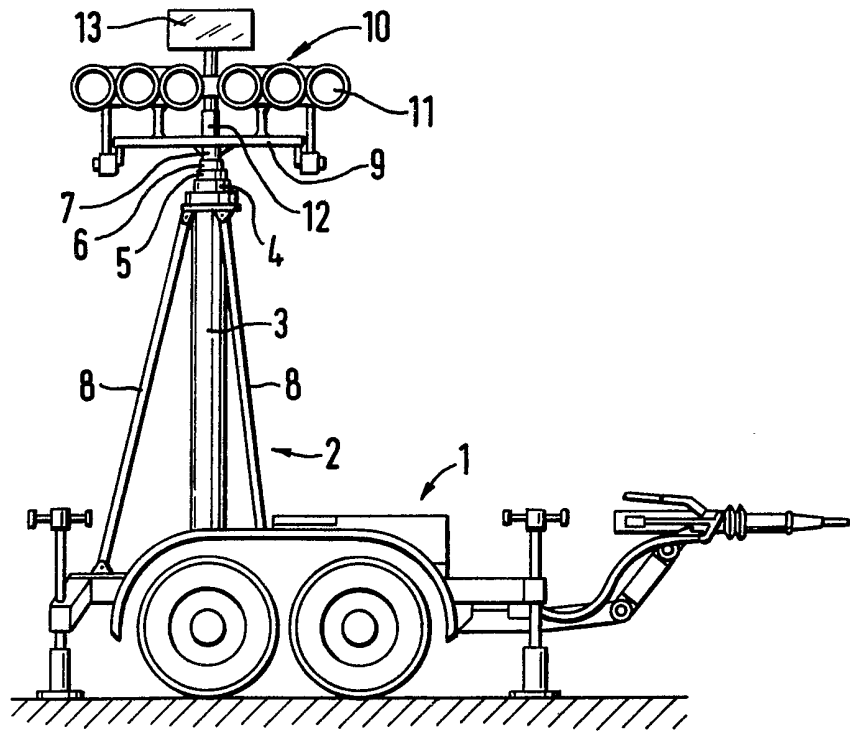
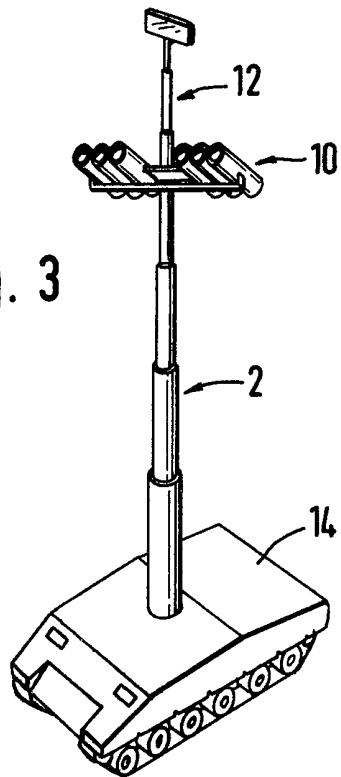


Fig. 2

Fig. 3



## SPECIFICATION

**A weapon system**

The invention relates to a weapon system, which is particularly suitable for combatting tanks and helicopters, in which a launching device for missiles is arranged on a lifting cylinder formed as an extendable telescopic mast.

In the past, weapon systems have been used to combat tanks, which are at relatively high risk due to the lack of camouflaging when in use. This may be because the position of, e.g. anti-tank helicopters or anti-tank rocket may be easily traced because of the noise they make or because they have to leave behind their protective covering during a mission and therefore can be detected immediately by the enemy.

The invention seeks therefore to provide a weapon system which is highly effective in combatting tanks and low-flying helicopters and other aircraft and which is difficult for the enemy to locate and eliminate. In addition, the weapon system should be very simply constructed mechanically and at the same time permit a high degree of mobility.

According to the invention, there is provided a weapon system, comprising a launching device for missiles arranged on a power operable extendable telescopic mast, wherein the actuating device comprises a firing device for firing recoilless projectiles and wherein, in addition to the firing device, a second mast carrying a position-finding and fire control device is pivotally arranged on the telescopic mast, the mast being adjustable in height independently of the position of the telescopic mast.

In fact, it is generally known from German Offenlegungsschrift No. 25 57 849 to arrange a catapult device on a lifting cylinder. However, this known arrangement is chiefly designed for launching small aircraft. This known device on the other hand is not suitable for use as an independent weapon system in the sense of the present invention.

In contrast to this, the invention provides a weapon system which makes it possible to combat tanks and low-flying helicopters successfully while at the same time having the possibility of a low loss rate itself. An independent weapon system with a high fire power is provided by the arrangement provided in accordance with the invention, namely a combination of a firing device for recoil-less projectiles and a position-finding and fire control system on an extendable telescopic mast, the said weapon system being difficult for the enemy to locate and therefore eliminate, both because of the small amount of noise and the rapid action of the device when actually being utilized. This is achieved by the fact that the weapon system in accordance with the invention makes it possible to utilize natural camouflaging, e.g. in the form of bushes, woodland and buildings, as far and as long as possible. In order to have the immediate field of vision in view the weapon system may be so

positioned that when initially only a part of the telescopic mast is extended, only the second mast which bears the sighting device is extended and projects out of the camouflage. Only when, enemy tanks or low-flying helicopters approach is the telescopic mast extended far enough to ensure a clear firing range for the firing device. Directly after firing the projectiles, the telescopic mast is retracted again, so that its position could only be detected in the short period during firing and this possible detection is not very likely.

The telescopic mast and the second mast can be retracted and extended noiselessly to a large extent. In this connection it is particularly advantageous if the telescopic mast of the weapon system in accordance with the invention is actuated by means of a pressure medium. In view of the extremely small amount of noise which would result and the high speed at which the mast could be extended, there is an element of surprise to be gained.

The invention will now be described in greater detail by way of example, with reference to the drawings, in which:—

Figure 1 shows a view of an embodiment of a weapon system in accordance with the invention in a position suitable for transportation;

Figure 2 shows the weapon system according to Fig. 1 in its position ready for observation and

Figure 3 shows a second example of embodiment of the weapon system in accordance with the invention in its position ready for firing.

In the Figures, the same components are provided with the same reference numerals.

In the embodiment of the invention shown in Figures 1 and 2, a telescopic mast 2, which may be extended hydraulically in this case, is arranged on a twin-axle trailer 1. The telescopic mast 2, which comprises several individual mast sections 3 to 7, is mounted in a tripod 8. On a platform 9, the uppermost section 7 of the telescopic mast 2 supports a device 10 for firing recoil-less projectiles, in this case defensive rockets 11. In the embodiment shown here, the platform 9 is firmly connected to the telescopic mast 2 which in turn is mounted at its lower end in a rotary bearing (not shown) and is rotatably mounted in the tripod 8.

The pivotability of the platform 9 and therefore of the firing device 10 may be ensured by the provision of a turn-table arranged between the uppermost section 7 of the mast and the platform 9. The extension height of the telescopic mast 2 can be adjusted steplessly in this case. However, mechanical locking mechanisms in the form of locking catches may be provided which can set predetermined stages of extension.

A second mast 12 is arranged on the telescopic mast 2 in addition to the firing device 10. The second mast supports a position-finding and fire control device 13 and extends the telescopic mast 2. This second mast 12, which is also telescopic, is arranged pivotally in the uppermost mast section 7 of the mast 2 and may be retracted into this mast section 7 when ready for transportation.

The second mast 12 is telescoped and extended hydraulically in this case. Since a separate pressure line is provided for this, it can be carried out irrespective of the extended position of the telescopic mast 2.

When using the weapon system in accordance with the invention the trailer 1 is brought to the desired location the telescopic mast 2 being completely retracted in accordance with the transport position as shown in Fig. 1 and the second mast 2 is largely inside the uppermost mast section 7.

When setting the arrangement up, the weapon system is positioned so that any natural camouflage (bushes, woodland etc.) is utilized. In order to observe, for example the apron of an airfield in the first instance, the second mast 12 is completely extended and then the telescopic mast 2 is extended (Fig. 2) to an extent such that the position-finding and fire control device 13 located on the second mast 12 projects out of the camouflage and can therefore see the apron. It is only when, with the aid of the position-finding device, e.g. a sighting device having a residual light amplifier, it is possible to make out an approaching enemy tank or low-flying helicopter that the telescopic mast 2 is extended to such an extent that there is a clear field of fire for the firing device 10. Once the defensive rockets 11 have been fired, the telescopic mast is retracted without delay back into the observation position (Fig. 2) so that only the position-finding and fire control device 13 located on the second mast 12 projects out of the camouflage and guides the rockets 11 on to the target.

When using rockets which seek their target automatically the entire weapon system can be withdrawn completely into the camouflage, including the second mast 12, once the rockets

40 have been fired. In both cases, because of the very short period of time in which the firing device 10 has to leave the camouflage, it is largely impossible for the weapon system to be located.

In the embodiment of the invention shown in Fig. 3, the telescopic mast 2 is arranged on an automatically operated armoured vehicle 14. The functioning and mode of operation of the weapon system are as described above.

#### CLAIMS

50 1. A weapon system comprising a launching device for missiles arranged on a power operable extendable telescopic mast, wherein the actuating device comprises a firing device for firing recoil-less projectiles and wherein, in addition to the firing device, a second mast carrying a position-finding and fire control device is pivotally arranged on the telescopic mast, the mast being adjustable in height independently of the position of the telescopic mast.

60 2. A weapon system according to Claim 1 wherein the telescopic mast is actuable by a pressure medium.

65 3. A weapon system according to Claim 1 or 2 wherein the second mast is arranged inside the uppermost mast section of the telescopic mast.

70 4. A weapon system according to any one of Claims 1 to 3, wherein the second mast is also telescopic independently of the telescopic mast.

75 5. A weapon according to any one of Claims 1 to 4, wherein the telescopic mast is arranged on a self-propelled vehicle.

80 6. A weapon system according to any one of Claims 1 to 4, characterized in that the telescopic mast is arranged on a trailer.

85 7. A weapon system substantially as described herein with reference to the drawings.