CLAIMS

1. A modular turret (**13**) for an armored vehicle, on the one hand comprising an invariable and unique basic structural unit able to be interchangeable, called standard shell (**1**), equipped with interface means, and on the other hand, a plurality of interchangeable and removable functional modules and/or systems (**5**, **6**, **8**, **12**, **21**, **22**, **23**), said functional modules and/or systems (**5**, **6**, **8**, **12**, **21**, **22**, **23**) being each able to be secured to the standard shell (**1**) by respective fastening means, the interface means thus being designed to allow the assembly of the set of different modules and/or systems of the same functional type on said standard shell (**1**) at an interfacing zone on the latter (**1**), said standard shell (**1**) comprising the assembly of a plurality of plates with different shapes and sizes giving the standard shell (**1**) a geometric shape with fixed dimensions, said plates being able to have orifices and/or connectors for fastening said interchangeable and removable functional modules and/or systems, said plurality of plates at least comprising :

- a base metal sheet (**2**) making up the base of the standard shell (**1**) over the entire surface area thereof (**1**), and the center of which is pierced to define the fastening of a ring (**3**) ;
- two cannon support plates (**4**) situated in front of the standard shell (**1**), and positioned perpendicular relative to the base metal sheet (**2**), each of the plates (**4**) comprising an orifice intended to receive a cannon module (**5**) and/or secondary weapon module (**6**) ;
- side metal sheets (**7**) starting from the cannon support plates (**4**), following the base metal sheet (**2**) to end behind the standard shell (1) ;
- an interface plate (**8**) connecting the side metal sheet (**7**) to the rear of the standard shell (**1**) perpendicular to the base metal sheet (**2**), said interface plate (**8**) being a fastening means for a bustle rack (**9**) ;
- upper metal sheets (**10**) cooperating with the cannon support plates (**4**), the side metal sheets (**7**) and the interface plate (**8**) to close the standard shell (**1**) ;

said standard shell (1) being characterized in that it further comprises :

- two arches (**11**) providing the junction between the front and rear of the standard shell (**1**), having a fixed height and forming a rectilinear channel extending from the cannon support plates (**4**) to the interface plate (**8**), so that

said arches (**11**) define, inside the standard shell (**1**), three invariable zones from a functional and structural perspective, independently of the actual cannon module (**5**), i.e., a zone for hosting the gunner on the right, looking from the front of the vehicle, a zone for hosting the commander on the left, and a central zone intended to receive the primary weapon (**5**), the position of the arches (**11**) defining fictive plans which, once extended downward with respect to the base metal sheet (2), make similarly appear the three aforementioned zones at the level of a basket (12) optionally mounted on the standard shell (1); and

- a cover (**14**), over the arches (**11**), the shape and/or height of which depending on the recoil created by the cannon module (**5**).

2. The modular turret (**13**) according to claim 1, characterized in that the interchangeable and removable functional modules and/or systems are selected, systematically or optionally, from the group made up of a cannon module (**5**) in a specific caliber range, for medium to large calibers, a small-caliber secondary weapon module (**6**), a basket (**12**), an aiming system (**21**), and ammunition storage or bustle rack module (**9**), an over-shield kit (**22**), a missile launcher system), a grenade launcher system, a close-up observation system, a radio communication system, a weather station, hatches, episcopes, a roof weapon system, a laser beam detection system, a navigation system, an electronic control system, a power system and/or an under-shield “boresight” system (**23**).

3. The modular turret (**13**) according to claim 2, characterized in that the caliber of the cannon module (**5**) is comprised between 20 and 130 mm.

4. The modular turret (**13**) according to any one of claims 1 to 3, characterized in that said side metal sheets (**7**) have an angle smaller than 90° relative to the base metal sheet (**2**) on the front face of the standard shell (**1**), and are welded perpendicular to the base metal sheet (**2**) on the lateral sides.

5. The modular turret (**13**) according to claim 1, characterized in that the cannon module (**5**) is interfaced with the standard shell (**1**) between the cannon support plates (**4**), either via a support (**15**), mask (**16**) and rolling bearings (**17**), or via journals (**18**), ball joints (**19**) and flanges (**20**), the fastening method being designed to be independent of the caliber of the cannon module (**5**).

6. The modular turret (**13**) according to claim 1, characterized in that the secondary weapon module (**6**) is interfaced with the standard shell (**1**), either jointly

with the cannon module (**5**) between the cannon support plates (**4**) at the mask (**16**) such that the cannon module (**5**) and the secondary weapon module (**6**) are both fastened on the mask (**20**), or outside said cannon support plates (**4**) such that the secondary weapon module (**6**) is integrated outside said mask (**16**), or both at once between and outside the cannon support plates (**4**), the fastening methods being designed all to be independent from the caliber of the cannon module (**5**).

7. The modular turret (**13**) according to claim 6, characterized in that the main axis of the secondary weapon module (**6**) is oriented in the same direction and sense as the main axis of the cannon module (**5**), in other words, such that a coaxiality appears between the two weapons (**5**, **6**).

8. The modular turret (**13**) according to claim 1, characterized in that the ammunition storage or bustle rack module (**9**) is interfaced with the standard shell (**1**) behind the latter (**1**) via the interface plate (**8**) acting as bustle rack (**9**) fastening means, the latter respectively being:

- in direct relation with the standard shell (**1**) in the case of the medium-caliber cannon module (**5**), such that an ammunition rack of the modular turret (**13**) simultaneously straddles the standard and interchangeable shell (**1**) and the bustle rack (**9**), the interface plate (**8**) marrying the base (**2**) and side (**7**) metal sheets preferably over a width of several millimeters;
- in indirect relation with the standard shell (**1**) in the case of the large-caliber cannon module (**5**), following the presence of a firewall, i.e., an additional plate, comparable to a complete junction, the interface plate (**8**) closing the entire rear surface area of the standard shell (**1**) by connecting the base (**2**) and side (**7**) metal sheets,

the bustle rack (**9**) containing the ammunition intended to be conveyed to the cannon module (**5**) automatically, respectively:

- longitudinally along the axis thereof (**5**) by the large-caliber cannon module (**5**), and
- transversely to the axis thereof (**5**) by the medium-caliber cannon module (**5**),

9. The modular turret (**13**) according to claim 1, characterized in that the plurality of interchangeable and removable functional modules and/or systems (**5**, **6**, **9**, **12**, **21**, **22**, **23**) is specifically attached to the same locations of the standard shell

(**1**) without modifying the structural and functional aspects of the standard and interchangeable shell (**1**) and independently of the caliber of the cannon module (**5**).

10. The modular turret (**13**) according to claim 1, characterized in that the unused interfacing zones are covered with closed blank plates, optionally armored using an additional armoring kit (**22**).

11. The modular turret (**13**) according to claim 1, characterized in that the assembly of the plurality of plates with different shapes and sizes giving the standard shell (**1**) a geometric shape with fixed dimensions is a mechanically welded assembly.

12. The modular turret (**13**) according to claim 1, characterized in that the plurality of interchangeable and removable functional modules and/or systems (**5**, **6**, **9**, **12**, **21**, **22**, **23**), irrespective of their specificity, is attached to the same locations of the standard shell (**1**), this association, in terms of the geometry of the standard shell (**1**) as well as the fastening methods, being independent of the number and nature of said modules and/or systems, whether they are interior or exterior, such that the immediate control environment such as Human Machine Interface, seats, etc. in which the crew of the modular turret (**13**) is found, as well as the position of said crew, made up of no more than two people, i.e., a commander and a gunner, remain identical at all times while the configuration of the modular turret (**13**) is not frozen in time, but can evolve over time, for example depending on updates as well as requests from the user, i.e., the standard shell (**1**) or the modular turret (**13**) is based on a commonality of the management of the various aforementioned modules and/or systems.