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Legal Risk in Military Replica Production: A Design Perspective

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Abstract

Uniforms, badges, medals, equipment and other easily recognisable items are manufactured for collection, historical use, entertainment and commercial purposes. Replica production may serve the legitimate interests of the maker, but intellectual property concerns arise where the original article carries features protected by the Designs Act, 2000.[1] This paper confines itself to one legal problem: where Indian design law draws the line between the visual features of a military article, which can be protected, and its functional features, which cannot. Section 2(d) protects only features of shape, configuration, pattern, ornament or composition of lines or colours that appeal to and are judged solely by the eye, and it excludes any mode or principle of construction or operation and anything that is in substance a mere mechanical device.[2] Military articles are almost always a blend of the two, and on the sources examined Indian law offers no developed test for separating them.

The study uses doctrinal legal research, statutory interpretation and judicial analysis, and adds a comparative review of how the United Kingdom, the European Union and the United States, together with Article 25(1) of the TRIPS Agreement, treat features dictated by technical function. It argues that liability for a replica should be decided feature by feature, that mere functional resemblance is not design infringement, and that India would benefit from a clearer functionality test and from better guidance for replica makers. It does not assume that military replicas are illegal.

1. Background, Introduction and Significance

Industrial design protection matters in intellectual property law because the appearance of a product helps distinguish it in the market and adds to its commercial value. The Designs Act, 2000 protects the visual features of manufactured articles that satisfy its statutory conditions.

Military articles supply a useful context for these rules. Uniforms, badges, medals, helmets, vehicle models and equipment are reproduced for museums, collectors, films, educational exhibits and commercial markets. A replica is not unlawful merely because it copies a military article. A question of design law arises only when the replica reproduces features that are protected under a registered design and is made or sold without the proprietor's consent.[3]

The difficulty is that military articles combine function and appearance. A helmet's overall shape may be fixed largely by the need to protect and fit the wearer, while its surface pattern, insignia or decorative finish may be purely aesthetic. A badge may carry a functional fastening alongside a distinctive emblem. The law must therefore ask which of the reproduced features fall inside the statutory definition of a design and which fall outside it as matters of construction or mechanical operation.[4]

[1] The Designs Act, 2000 (Act 16 of 2000), in force from 11 May 2001, replacing the Designs Act, 1911.

[2] Designs Act, 2000, s 2(d).

[3] Designs Act, 2000, s 22(1). 4

Designs Act, 2000, s 2(d), which excludes "any mode or principle of construction or operation or any thing which is in substance a mere mechanical device".

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This question is significant because it fixes the boundary between lawful replication and infringement. A replica maker who copies only what is functional commits no design infringement, while one who copies protected visual features of a registered design risks liability. Foreign legal systems have developed explicit tests for this boundary, but the Indian position has received little attention, particularly for military articles. This paper addresses that gap.

2. Literature Review

2.1. The Statutory Framework: Section 2(d)

The Designs Act, 2000 is the main legal basis of this research. Section 2(d) defines a design as the features of shape, configuration, pattern, ornament or composition of lines or colours applied to an article by any industrial process, which in the finished article appeal to and are judged solely by the eye. The definition does not include any mode or principle of construction or operation, anything that is in substance a mere mechanical device, trade marks, property marks, or artistic works as defined in section 2(c) of the Copyright Act, 1957.[4] The test of protection is therefore tied to the nature of the feature and not to the value or importance of the article.

Section 22 is relevant only as the provision that attaches liability. It prohibits, during the subsistence of the registration and without the proprietor's licence or written consent, applying a registered design or a fraudulent or obvious imitation of it to an article in the class in which the design is registered, and importing or knowingly selling such articles.[5] Because only a protected design can be infringed, the question under section 2(d) logically comes before the question under section 22.

2.2. Bharat Glass Tube Ltd v Gopal Glass Works Ltd

In *Bharat Glass Tube Ltd v Gopal Glass Works Ltd*,[6] the Supreme Court considered the conditions for registration and protection of industrial designs, in a dispute over a registered design for glass sheets. The judgment stresses that a design must be assessed in relation to the article to which it is applied and in terms of its visual, eye-appealing character. The decision did not concern military replicas and did not lay down a test for functional features. Its value for this study lies in the principle that similarity in the abstract does not settle a design dispute: the court must identify what the protected design actually is and what was actually copied.

2.3. Official Guidance

Intellectual Property India describes design protection as relating to the visual aspect of an article, such as shape, configuration, pattern and ornamentation, and as distinct from functional or mechanical components.[7] This guidance supports the approach of this paper but does not supply a test for articles whose appearance is partly dictated by use.

2.4. Research Gap

Indian sources set out the statutory definition and the general principles of novelty and registration. On the sources examined, however, there is no developed Indian test for deciding when a feature of a utilitarian article is excluded as a matter of construction or mechanical operation and when it remains an eye-appealing, protectable feature. There is also no comparative study that places the Indian position against the tests used in other jurisdictions, and none that applies the question to military replicas. The gap addressed by this paper is therefore this: how should the functional and aesthetic features of a military article be separated for the purposes of section 2(d), and what can India learn from other legal systems in doing so?

[4] Designs Act, 2000, s 2(d). On the statute generally, see Intellectual Property India, "The Designs Act, 2000" <https://ipindia.gov.in/the-designs-act-2000>.

[5] Designs Act, 2000, s 22(1)(a)–(c).

[6] (2008) 10 SCC 657. Full text available at <https://indiankanoon.org/doc/444914/>.

[7] Intellectual Property India, "Basics of Designs" <https://www.ipindia.gov.in/basics-of-designs>.

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3. Statement of the Research Problem

A military replica may be produced for a valid purpose, yet it can copy features that a registered design protects. Section 2(d) limits design protection to visual features and excludes functional and mechanical aspects, but the Act does not say how a court is to treat a feature that is both useful and visually distinctive, such as the curve of a helmet or the profile of a buckle. If the exclusion is read too widely, genuine visual designs lose protection. If it is read too narrowly, a proprietor could use design law to monopolise the functional form of an article.

The central problem is therefore the absence of a clear and workable test, under Indian law, for separating protectable visual features from excluded functional features in military articles, so that replica makers and proprietors can both assess legal risk with some certainty. The study examines the applicable principles to explain that risk and does not presume that all replicas are illegal.

4. Research Objectives

- To examine the meaning and scope of the "visual features" requirement and the functional exclusions in section 2(d) of the Designs Act, 2000.
- To identify which features of common military articles fall within and which fall outside that definition.
- To analyse how section 22 operates only on features that are protectable, and what follows for replica production.
- To compare how the United Kingdom, the European Union, the United States and the TRIPS Agreement treat features dictated by technical function.
- To suggest legal and practical measures that would give India a clearer functionality test and reduce avoidable disputes.

5. Research Questions

- Whether, and to what extent, does reproducing the functional features of a military article for replica production infringe the Designs Act, 2000?
- Which visual features of military articles may qualify for protection under section 2(d)?
- How do the United Kingdom, the European Union and the United States separate functional from aesthetic features, and how does that compare with India?
- What reforms and practical measures would help India draw this line more clearly?

6. Scope and Limitations

The study concerns industrial design protection under Indian law and focuses on one issue: the boundary between visual and functional features under section 2(d). The articles considered are military replicas such as uniforms, badges, medals, helmets and items of equipment, and the study looks at reproduction of their visual and functional features for replica manufacture.

Other provisions and regimes are deliberately left outside the scope so that the paper deals with one problem in depth. Where they are mentioned, it is only to place the central issue in context.

The study is doctrinal and comparative. It involves no interviews with manufacturers, military institutions or enforcement agencies, so its findings are legal interpretations and not empirical findings on how often infringement occurs. Foreign authorities are used as persuasive comparators and not as binding law, and none of the decisions discussed is a military-replica case. The outcome in any real dispute depends on the specific registration, the article, the features copied and the facts.

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7. Research Methodology

The research is doctrinal and comparative. The doctrinal part interprets section 2(d) and section 22 of the Designs Act, 2000 and the Supreme Court's decision in *Bharat Glass*. The comparative part uses the functional method: it asks how each of the selected systems solves the same problem, namely excluding features dictated by technical function while protecting appearance. The United Kingdom, the European Union and the United States were chosen because they have mature bodies of design case law, they approach the functionality question in different ways, and their decisions are frequently cited in Indian intellectual property discussion. TRIPS is included as the international baseline to which India is bound as a WTO member.

Primary sources are legislation and judicial decisions. Secondary sources are academic writing, legal commentary and official guidance.[8] The analysis proceeds by stating the Indian rule, comparing it with the foreign tests, and then applying the principles to illustrative replica situations to reach a reasoned view on risk and reform.

8. Main Chapters and Legal Analysis

Chapter I: Visual and Functional Features in Military Articles

Section 2(d) protects what the eye judges in the finished article. A replica helmet may match the original's outer shape, surface pattern and decoration. Some aspects of the shape, such as the curvature needed for protection or fit, may be dictated by use. Other aspects, such as an embossed crest, a painted pattern or a decorative trim, are chosen for appearance and can be assessed independently as aesthetic elements. The legal question is not simply whether the replica copies the original, but whether the copied features fall within the statutory definition and whether they are protected by a subsisting registration.

The same reasoning applies to other articles. A badge or medal usually carries a distinctive arrangement of shapes, lines and ornament, which is the kind of feature section 2(d) contemplates, together with a pin, clasp or ribbon fitting that serves a mechanical purpose. A buckle, a strap arrangement or a holster has a form influenced by how it works. A feature-byfeature assessment is therefore unavoidable, and a general resemblance or a common military theme proves nothing by itself.

Chapter II: The Indian Position

Three points emerge from the statute. First, section 2(d) places the boundary in the definition itself: eye appeal is required, and construction, operation and mechanical devices are excluded. Second, the words used differ from those in other systems. Indian law speaks of a “mode or principle of construction or operation” and of a “mere mechanical device”, whereas the foreign provisions discussed below ask whether a feature is dictated by technical function. The Indian wording is not obviously narrower or wider, but it has not been developed into a test. Third, section 22 only comes into play once the feature copied is protectable and the registration subsists, so a successful argument that the copied feature is functional removes the section 22 claim at its root.[9]

The absence of a settled test creates uncertainty in both directions. A proprietor cannot confidently predict how far its registration extends over a utilitarian article, and a replica maker cannot confidently predict which features are free to copy. The uncertainty is greatest for military equipment, where use and appearance are closely linked.

[8] Intellectual Property India, “Basics of Designs” <https://www.ipindia.gov.in/basics-of-designs>; J V Abhay and Jogeshwar Mishra, “An Overview of the Indian Design System under the Designs Act, 2000” (Shardul Amarchand Mangaldas & Co, 13 September 2023) <https://www.amsshardul.com/insight/an-overview-of-the-indian-design-system-under-the-designs-act2000/>.

[9] Designs Act, 2000, ss 2(d) and 22(1).

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Chapter III: Judicial Approach in India

Bharat Glass establishes that a design is assessed in relation to the article to which it is applied and as a matter of visual appeal. Applied to replicas, the decision requires a court to identify the protected design and compare it with what was copied, instead of relying on an abstract impression of similarity.[10] It stops short of a functionality test. The Court did not need to decide how to treat a feature that is both useful and attractive, because the dispute turned on novelty and prior publication.

This leaves a doctrinal space. A court faced with a replica dispute would have to decide whether alternative forms performing the same function make a feature protectable, whether a feature can be excluded if function is only one of several reasons for it, and whether functional elements should be disregarded when comparing the replica with the registered design. India has no authoritative answers to these questions on the sources examined, which is why the comparative material in the next chapter is useful.

Chapter IV: Comparative Analysis

A. The international baseline: TRIPS

Article 25(1) of the TRIPS Agreement requires Members to protect independently created industrial designs that are new or original, and it allows Members to provide that protection does not extend to designs dictated essentially by technical or functional considerations.[12] The Indian definition achieves a similar end through its exclusion of construction, operation and mechanical devices, but it does not use the TRIPS language of functional considerations. The[11] baseline therefore leaves the choice of test to each Member.

B. United Kingdom

The Registered Designs Act 1949 provides that a right in a registered design does not subsist in features of appearance of a product which are solely dictated by the product's technical function, and it also excludes features that must necessarily be reproduced in exact form and dimensions to allow the product to be connected to another (the "must-fit" exclusion).[12] The exclusion has a long history in UK law. Before the present wording, the House of Lords in *Amp Inc v Utilux Pty Ltd* treated shapes dictated solely by function as outside design protection and developed the must-fit idea.[13] The UK approach is narrow: the word "solely" means that a feature is excluded only where function is the only thing that determines it, so features shaped by function but also by aesthetic choice remain protectable.

C. European Union

Article 8(1) of Council Regulation (EC) No 6/2002 on Community designs, and article 7(1) of Directive 98/71/EC for national registrations, likewise deny protection to features of appearance solely dictated by technical function.[14] The Court of Justice clarified the test in *Doceram GmbH v CeramTec GmbH*. It held that the existence of alternative designs that could serve the same function is not decisive. The question is whether technical function was the only factor that determined the features in issue, assessed on all the objective circumstances, including the design's visual aspects and the view of an objective observer.[15] The decision moved EU law away from the earlier "multiplicity of forms" approach, under which a feature was protectable if other forms could do the same job.

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[10] (2008) 10 SCC 657.

[11] Agreement on Trade-Related Aspects of Intellectual Property Rights (adopted 15 April 1994, entered into force 1 January 1995) 1869 UNTS 299, art 25(1).

[12] Registered Designs Act 1949, s 1C(1)–(2), inserted by the Registered Designs Regulations 2001 (SI 2001/3949).

[13] *Amp Inc v Utilux Pty Ltd* [1972] RPC 103 (HL).

[14] Council Regulation (EC) No 6/2002 of 12 December 2001 on Community designs, art 8(1)–(2); Directive 98/71/EC of the European Parliament and of the Council of 13 October 1998 on the legal protection of designs, art 7(1).

[15] Case C-395/16 *Doceram GmbH v CeramTec GmbH* (CJEU, 8 March 2018).

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D. United States

The United States protects "ornamental" designs for articles of manufacture through design patents, and a design that is dictated by function is not protectable.[1617] Courts consider factors such as whether alternative designs exist, whether the design has utilitarian advantages and whether the overall appearance is dictated by function.[18] A distinctive feature of US law is its treatment of mixed articles. A design patent is not invalid merely because the article is useful. Instead, when construing the claim, the court factors out functional elements and protects only the ornamental aspects.[18] Infringement is then judged by the ordinary observer test.[19]

E. Summary comparison

Jurisdiction	Source of rule	Functionality test	Consequence for a replica maker
India	Designs Act, 2000, s 2(d)	Excludes mode or principle of construction or operation and mere mechanical devices; no developed judicial test identified	Uncertain. Risk is hard to assess for utilitarian articles.
UK	Registered Designs Act 1949, s 1C; *Amp v Utilux*	Features solely dictated by technical function, and must-fit features, are excluded	Purely functional form is free to copy; aesthetic choices within a functional article stay protected.
EU	Reg 6/2002, art 8; Dir 98/71/EC, art 7; *Doceram*	Excluded if technical function was the only factor determining the feature; alternative designs not decisive	Clearer, objective test. Replica maker must show function alone explains the feature.
US	35 USC § 171; *Richardson*; *Lanard Toys*	Design must be ornamental; functional elements are factored out of the claim	Protection is confined to ornamental aspects, so copying functional elements alone is not infringement.
TRIPS	Art 25(1)	Members may exclude designs dictated essentially by technical or functional considerations	Permissive baseline; test left to national law.

F. What the comparison shows for India

Three lessons follow. First, every system examined excludes functional features, but they do so through an explicit test, whether it is the "solely dictated" test of the UK and EU or the ornamental requirement and claim-construction approach of the US, whereas India relies on general words in the definition. Second, the systems have moved away from treating the mere availability of alternative designs as decisive. The EU did so expressly in *Doceram*, and the US treats availability of alternatives as only one factor among several. This matters because a replica maker who argues that function dictated a feature should not lose merely because a different form was theoretically possible. Third, the US practice of factoring out functional elements offers a practical way to protect the genuine visual design of a mixed article without extending the monopoly to its function.

Chapter V: Applying the Analysis to Replica Production

The following illustrations apply the Indian rule, read together with the comparative lessons, to three common situations. They are hypothetical and illustrate the method.

First, a maker reproduces the surface pattern, insignia and decorative finish of a helmet that forms part of a subsisting registered design and sells it without consent. These are eyeappealing features within section 2(d),

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17 USC § 171(a). 18
Berry Sterling Corp v Pescor Plastics Inc 122 F 3d 1452 (Fed Cir 1997); *Lanard Toys Ltd v Dolgencorp LLC* 958 F 3d 1337 (Fed Cir 2020).
[18] *Richardson v Stanley Works Inc* 597 F 3d 1288 (Fed Cir 2010).
[19] *Egyptian Goddess Inc v Swisa Inc* 543 F 3d 665 (Fed Cir 2008) (en banc).

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so section 22 liability may arise, subject to the statutory conditions and to proof that the design is registered and in force.[20]

Second, a maker copies only the overall form of a piece of equipment where that form is explained by how it is used or fitted, and does not copy any registered ornamental feature. On the UK and EU reasoning, such a form is outside protection if function alone determined it, and on the US approach it would be factored out of any claim. Under section 2(d), it falls within the exclusion for construction, operation or mechanical devices. A functional resemblance is not design infringement.

Third, a maker copies the shape of a badge or medal together with its clasp. The ornamental shape and arrangement of lines may be protectable, while the clasp, being mechanical, is not. The legal risk lies in the first element and not in the second.

Taken together, the illustrations show that no general rule makes military replicas lawful or unlawful. The outcome depends on the registration, the features copied and how those features are classified.

9. Findings and Discussion

1. Section 2(d) of the Designs Act, 2000 is the decisive boundary between protectable visual features and excluded functional or mechanical features. Liability under section 22 can attach only to the former.
2. Reproducing a military article is not in itself design infringement. Legal risk is greatest where the replica copies eye-appealing features covered by a subsisting registration, and it is low where only functionally explained features are copied.
3. On the sources examined, India has no developed judicial test for deciding when a feature of a utilitarian article is functional. *Bharat Glass* supports article-specific, visual assessment but does not address functionality.
4. The United Kingdom and the European Union exclude features "solely dictated" by technical function, and after *Doceram* the EU does not treat the availability of alternative designs as decisive. The United States requires ornamentality and factors out functional elements when construing the claim. TRIPS permits such exclusions but does not prescribe a test.
5. Comparative practice suggests that feature-by-feature analysis is both workable and fair to proprietors and replica makers, and that Indian law would benefit from adopting a similarly explicit approach.
6. None of the decisions examined concerns military replicas. The analysis is therefore an application of general principles and not a restatement of existing military-replica law.

10. Suggestions and Recommendations

The following measures follow from the comparative analysis and are directed at reducing uncertainty on the single issue examined.

7. Adopt a clear functionality test through judicial development or amendment. Indian courts should treat a feature as excluded under section 2(d) where technical function alone determined it, and should not treat the mere existence of alternative forms as decisive. Parliament could also consider aligning the wording of section 2(d) with Article 25(1) of TRIPS by expressly referring to designs dictated essentially by technical or functional considerations.

[20] Designs Act, 2000, s 22(1)(a).

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8. Construe the scope of a registered design feature by feature. In an infringement dispute, courts should identify the ornamental features of the registered design, set aside functional elements, and then compare the remainder with the replica, in the manner of the US approach in *Richardson*.
9. Improve the registration record. The Controller and applicants should be encouraged to identify in the representation and statement of novelty which features are claimed as ornamental and which are shown only for context, so that the extent of the claim is clear on the register.
10. Separate functional from visual features at the design stage. Replica makers should document which features they copy and why, so that functional similarity can be distinguished from copying of protected ornament. Functional similarity alone does not establish a prima facie case of design infringement.
11. Seek a licence where protected ornamental features are to be reproduced, and Intellectual Property India and industry bodies should publish guidance on the difference between functional and aesthetic features.

11. Conclusion

The legal risk in making military replicas turns on one question that Indian design law has not yet answered clearly: which features of a military article are protectable visual features and which are excluded functional features. Section 2(d) draws the line in general terms, and section 22 imposes liability only on the protectable side of it. The comparative review shows that the United Kingdom, the European Union and the United States have each built explicit tests for this line, that they have moved away from treating the availability of alternatives as decisive, and that the United States offers a useful method for handling mixed articles by factoring out functional elements.

The main finding is that reproducing a military article is not itself infringement. Liability depends on the legal status of the design, on whether the copied features are visual and not functional, and on the conditions of section 22. A clearer functionality test, feature-by-feature construction of registered designs and better practical guidance would allow legitimate replica production to continue while protecting genuine design rights. A balanced approach respects both the proprietor's rights and the replica maker's freedom to copy what the law leaves free.

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