

Perimeter Protection Barrier Means (Security Fences)

Table of content

1. Introduction	3
2. General	3
3. Description of Perimeter Protection Barrier Means	4
3.1 Fence Features	4
3.2 Summary Table of Fence Basic Specifications	5
3.3 Basic Types of Security Fence	5
3.3.1 Welded mesh fence with a front guard protecting against climb-over	5
3.3.2 Welded Wire Mesh Fence with Front and Back Guards Protecting Against Climb-Over	6
3.3.3 Straight Welded Wire Mesh Fence	7
3.3.4 Welded Wire Mesh Extension for Mounting on Top of the Existing Wall	8
3.4 Anti-Sapping Device	9
3.5 Strengthened Jagged Tape	10
3.6 Fence Erection Details	11
3.7 Providing Pass Zones	11
4. Warranty and Maintenance	13
4.1 Warranty and Post-Warranty Maintenance	13

1. Introduction

This Executive Summary includes basic technical solutions and specifications of security fences designed for perimeter protection at high-security facilities.



2. General

The Russian company – *LB Sky Global OOO* (Moscow) – designs, manufactures and installs perimeter protection means for large industrial projects.

The perimeter protection barrier means offered by *LB Sky Global* are efficiently applied to provide security:

- In the airports and on the air fields of Tel-Aviv, Jerusalem, Moscow, Taganrog, Ivanovo, Kiev, Chicago, Lima;
- At the military facilities of Russia, Israel, Ukraine, the USA, Canada;
- In the governmental residences of Israel, Canada, the USA, Ukraine, Turkmenistan, Hungary, Romania;
- In shared warehouses of *RENAULT*, *FIAT*, *MAZDA* in Israel;
- At the test sites of *RENAULT* in France;
- At the power plants of Russia, Israel, France, Singapore, Hungary, Romania;
- At the projects and the pipe lines of *CHEVRON*, *LUKOIL*, *ROSNEFT*, *EXXON MOBIL*, *SHELL UK*;
- In penitentiaries of the USA, France, Israel.

3. Description of Perimeter Protection Barrier Means

3.1 Fence Features

1. A meshed fabric is made of wire rods 6 mm in diameter drawn to diameter of 4.5 mm **to strengthen their surface and to protect them against cutting** by improvised means.
2. **Posts are made with a longitudinal weld to assure their upright stability. The post top is covered with a plastic plug for protection against dust and precipitations.** The lower part is provided with a condensate drain. Support posts are used to assure stability and strain of fence sections.
3. To prolong service life, ready-made meshed panels and posts are **hot-galvanized** (min 0.29 kg/m²). Hot-galvanized steel with a protective zinc coat can be used for up to 50 years without any visible corrosion traces and with no need for re-galvanizing.
4. This structure is free from reinforcement plates.

Depending on Customer's request, fences may be made with various polymer coats (see Fig. 1).



Fig. 1 – Polymer-coated fence (left) and fence without polymer coat

3.2 Summary Table of Fence Basic Specifications

#	Specifications	Parameter Value	Unit of Measurement
1.	Fence wire diameter, excl. polymer coat	4.5	mm
2.	Fence mesh size	200x50	mm
3.	Minimum zinc coat density w/ zinc purity of:	0.29 99.5	kg/m ² %
4.	Protective zinc coat thickness	80-120	mc
5.	Wire tensile strength	>586	MPa
6.	Weld strength	2 780	N

3.3 Basic Types of Security Fence

We offer the following perimeter protection barrier means:

- Welded wire mesh fence with a front guard protecting against climb-over.
- Welded wire mesh fence with front and back guards protecting against climb-over.
- Straight welded wire mesh fence.
- Welded wire mesh extension for mounting on top of the existing wall.

3.3.1 Welded mesh fence with a front guard protecting against climb-over

The mesh fence of this type is a solid wire mesh structure made of hot-galvanized welded steel with non-blocked vision.

Depending on a Customer's request, the height (length of a wire mesh fabric) may be 2.95 m, 3.5 m, or 6 m.

The climb-over protection structure consists of a front guard protruding 0.95 m towards an intruder. The fence is shown in Fig. 2.



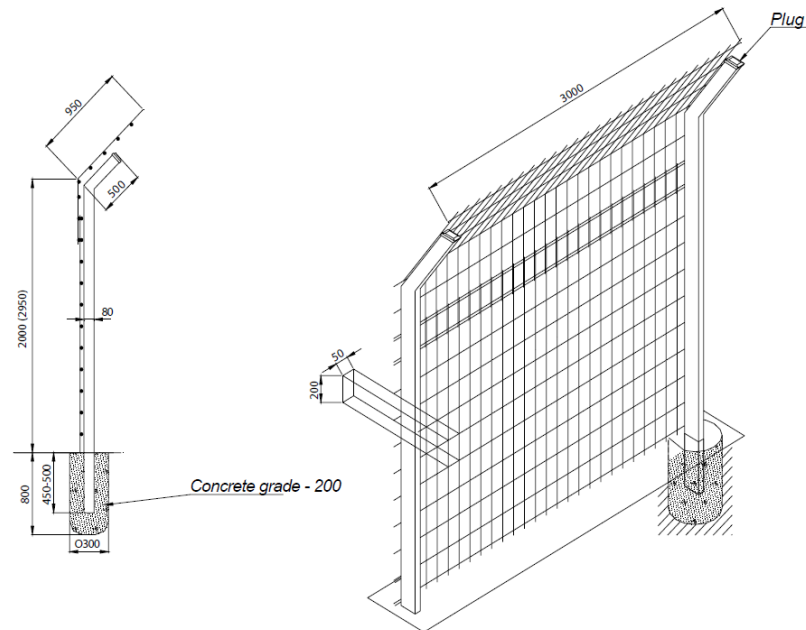


Fig. 2 - Fence with a guard protecting against climb-over

3.3.2 Welded Wire Mesh Fence with Front and Back Guards Protection Against Climb-Over

The mesh fence of this type is a solid wire mesh structure made of hot-galvanized welded steel with non-blocked vision.

Depending on a Customer's request, the height (length of a wire mesh fabric) may be 2.95 m, 3.5 m, or 6 m.

The climb-over protection structure consists of front and back guards protruding 0.95 m towards an intruder and 0.8 m towards the protected area. The fence is shown in Fig. 3.

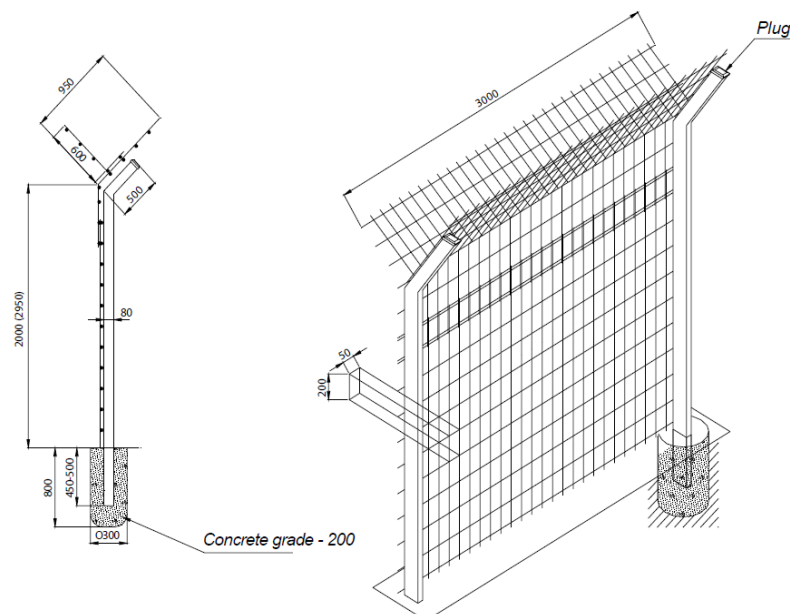


Fig. 3 - Welded wire mesh fence with front and back guards protecting against climb-over

3.3.3 Straight Welded Wire Mesh Fence

The mesh fence of this type is a solid wire mesh structure made of hot-galvanized welded steel with non-blocked vision.

Depending on a Customer's request, the height (length of a wire mesh fabric) may be 2.95 m, 3.5 m, or 6 m.

The fence is shown in Fig. 4.

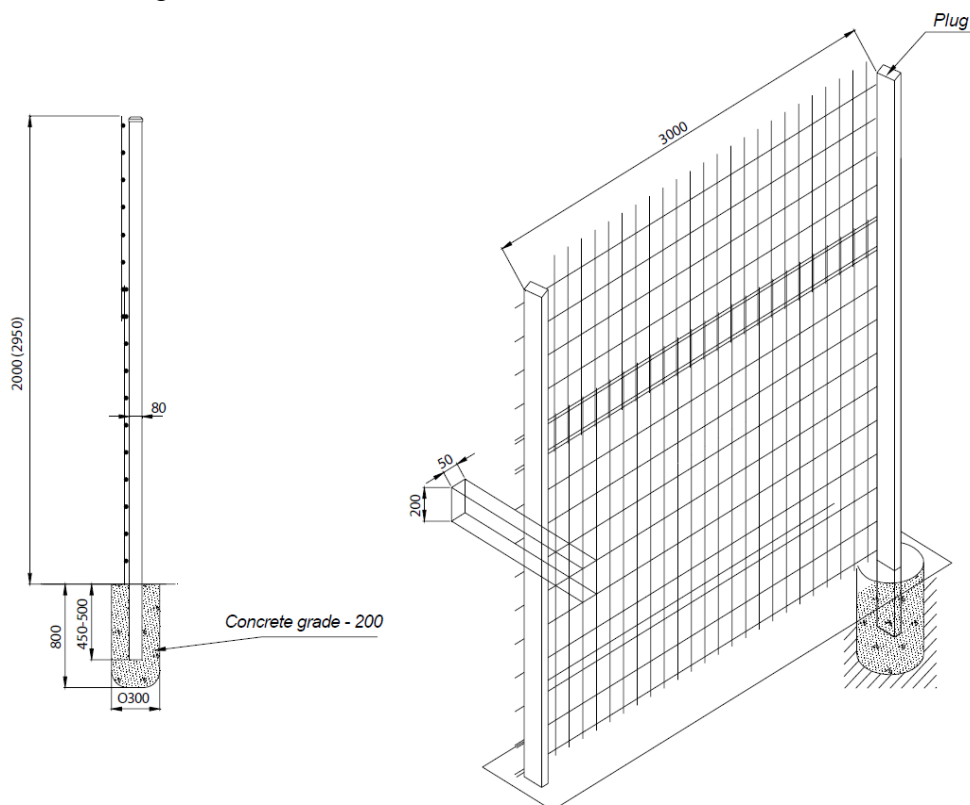


Fig. 4 - Straight welded wire mesh fence

3.3.4 Welded Wire Mesh Extension for Mounting on Top of the Existing Wall

The mesh fence of this type is a solid wire mesh structure made of hot-galvanized welded steel and installed on top of the existing fence (e.g. reinforced concrete slabs, see Fig. 5).

The height (length of a wire mesh fabric) is 1.5 m. Depending on a Customer's request; the size of the extension may be changed.

The extension is made in the form of a straight fence, or a fence with front and back guards.

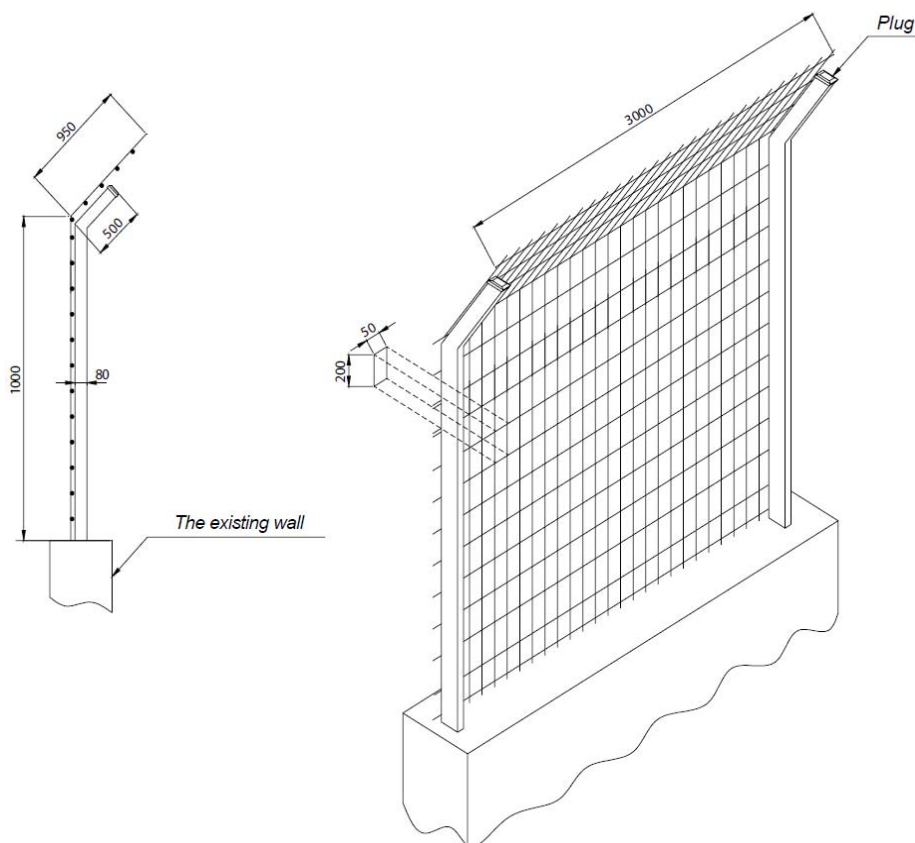


Fig. 5 - Welded wire mesh extension for mounting on top of the existing wall

3.4 Anti-Sapping Device

An anti-sapping device is a welded hot-galvanized wire mesh grid designed to prevent unauthorized intrusion to the protected area of a project by undermining. The anti-Sapping device is connected with the basic fence by overlapping at least 1 mesh. This device should be laid parallel to the ground, or buried upright into the ground. The width (or depth) of the anti-Sapping device is 0.6 m (please see Fig. 3 and 7).

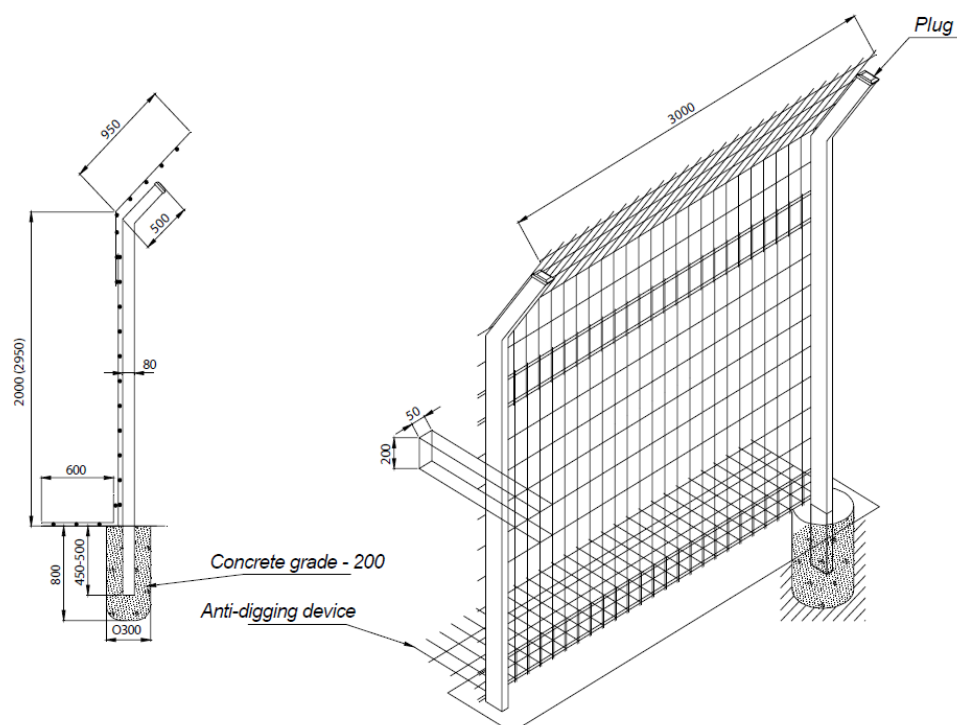


Fig. 6 – Fence with horizontal anti-Sapping device

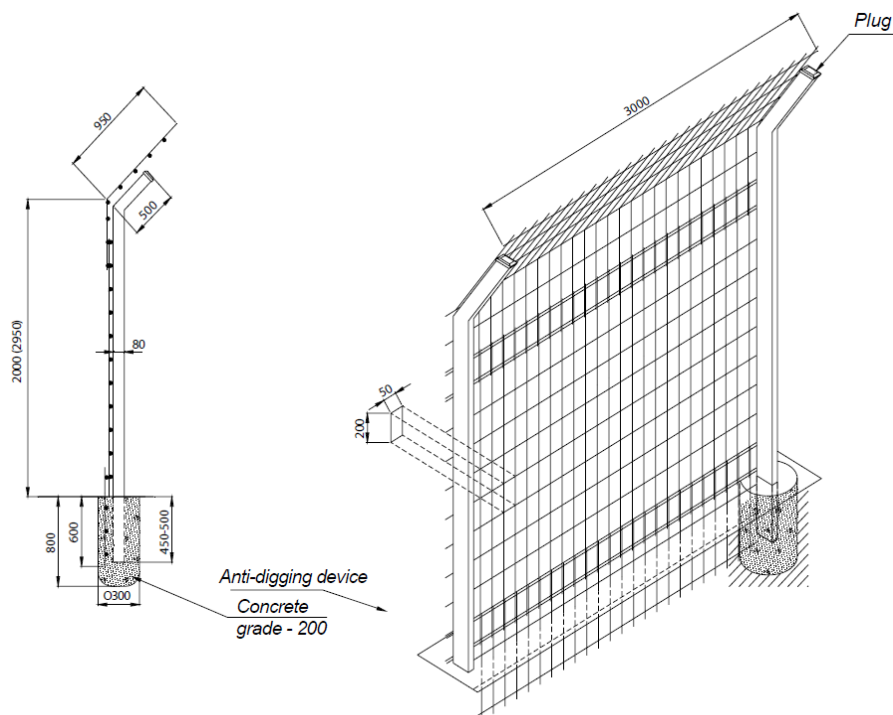


Fig. 7 – Fence with anti-Sapping device buried into ground

3.5 Strengthened Jagged Tape

A strengthened jagged tape may be laid on top of fences of all types to provide additional protection (see Fig. 8). The diameter of the tape is 700 – 1000 mm.



Fig. 8 – Fences with strengthened jagged tapes

3.6 Fence Erection Details

- ✓ Fence erection process **does not require an oversite excavation**.
- ✓ The fence **follows the terrain relief** continuously.
- ✓ **Wire mesh panels** are overlapped outside the pole zone **and strained**. The posts are set on the outside of the fence.
- ✓ **Bench work tools or welding equipment are not applied** for the erection. Fence elements are attached by means of clamps and connection braces (see Fig. 9).

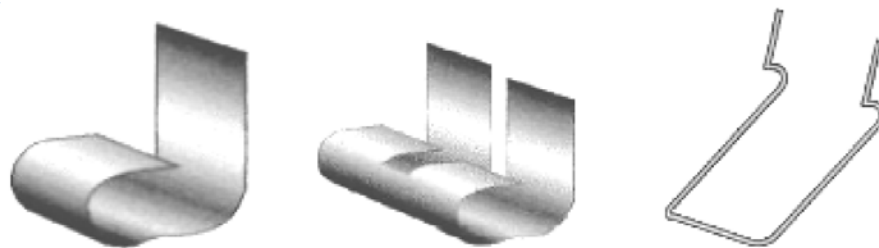


Fig. 9 – Single clamp, dual clamp, connection brace

3.7 Providing Pass Zones

Vehicle pass zones are provided by means of swinging and sliding gates (see Fig. 10 and 11). A gate is a uniform structure supplied in a ready-assembled state. The height and the width of the structure depend on a Customer's request.



Fig. 10 – Swinging gates

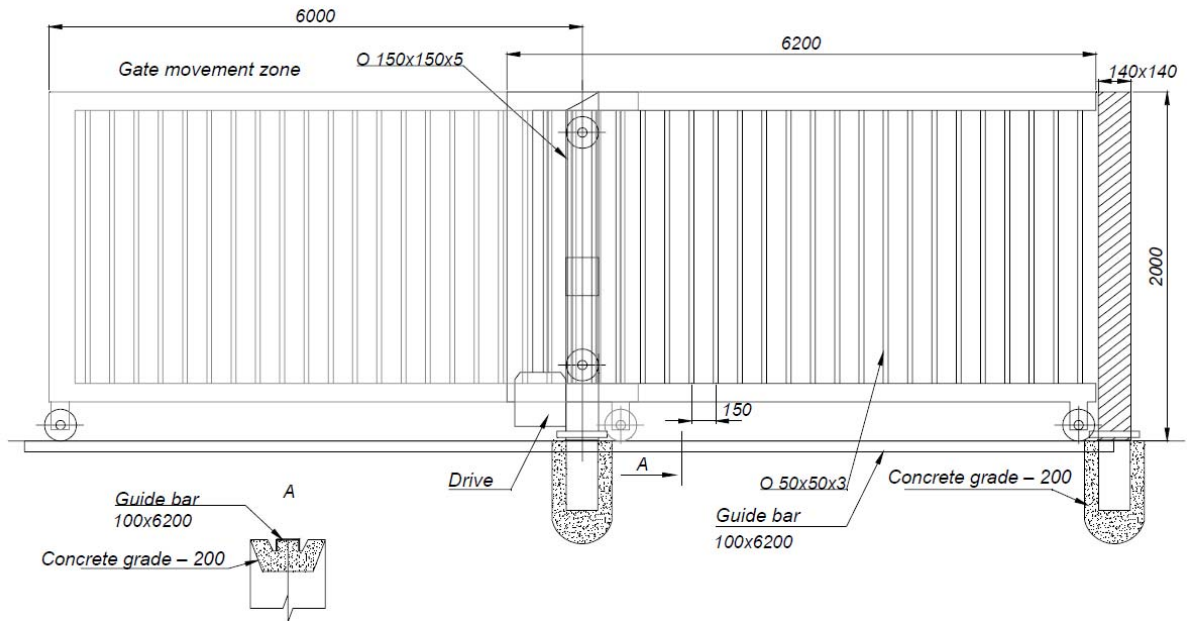


Fig. 11 – Sliding gate

Pedestrian passage zones are provided by means of wickets (see Fig. 12). A wicket is a uniform structure supplied in a ready-assembled state. Wickets may be set separately or in units together with gates. The size of a wicket depends on a Customer's request.

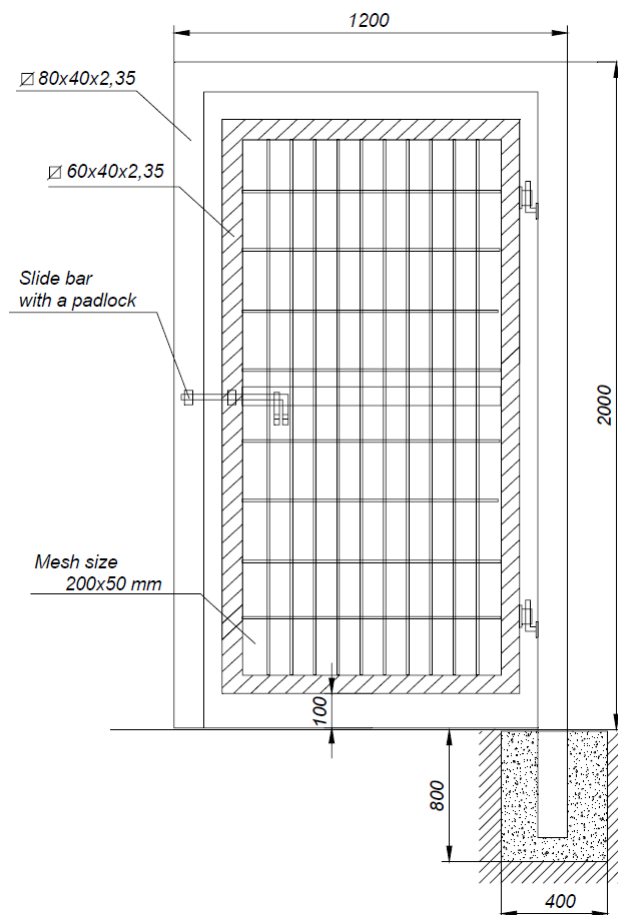


Fig. 12 – Wicket

4. Warranty and Maintenance

4.1 Warranty and Post-Warranty Maintenance

All perimeter protection barrier means are provided with a **20 years** warranty.

No special maintenance of the system is needed during the warranty period.

Seasonal straining of fence elements is not needed.

Fence elements do not need painting.