

# Germany's Historic Wooden Covered Bridges Still Standing



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Philip S. C. Caston

Neubrandenburg University of Applied Sciences  
Germany

Fig. 2a: Location of the Federal Republic of Germany in the world.



Fig. 2b: Parallel trusses and horizontal bracing form a box section which is the basic structural solution.



Fig. 2c: Location of Germany's 70 remaining historic wooden covered bridges.



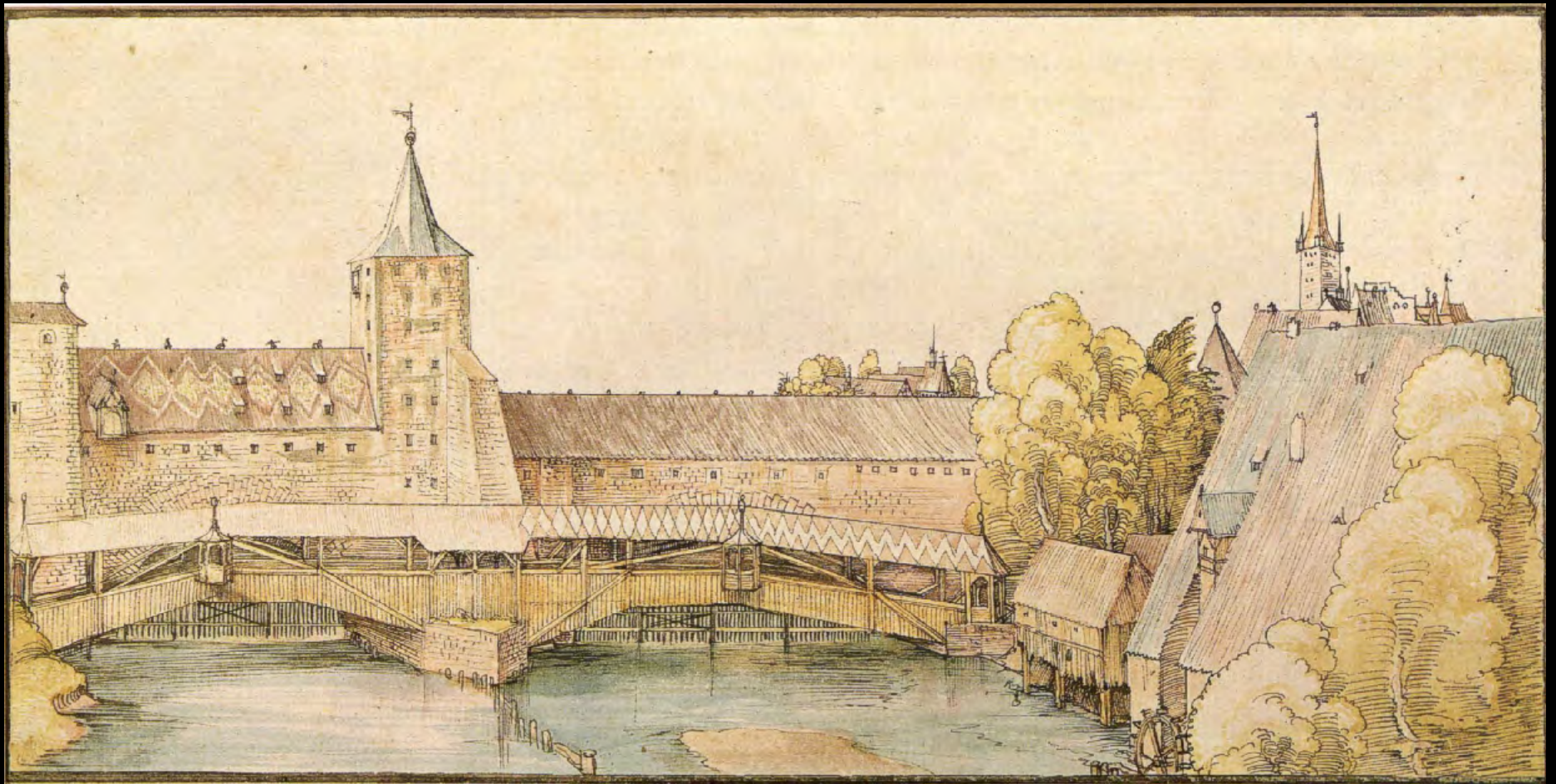


Fig. 3: The *Trockensteg* crossing the river *Pegnitz* in *Nuremberg*, Bavaria, Germany.  
Albrecht Dürer, watercolour, ca. 1496 (Albertina Museum, Vienna, Inv. Nr. 3065).





Fig. 4: *Seufzerbrücke* in *Staden*, Hesse, Germany. The *bridge* carries a plaque stating it was built in 1684.





Fig. 5a + b: *Große Wallbrücke* over the moat at Fortress Rosenberg in *Kronach*, Bavaria, Germany. The stone piers have the date 1686 carved into them. The sides are built as half-timber framing not as a truss.



Fig. 5c: *Kleine Wallbrücke* over the moat at Fortress Rosenberg in *Kronach*, Bavaria, Germany.







Fig. 6a: *Brand der Meißener Elbbrücke am 12. März 1813*, J. F. Nagel, Meissen.



Fig 6b: 18th. C. Study model (carpenters final exam work) of the largest span built between 1668 and 1757

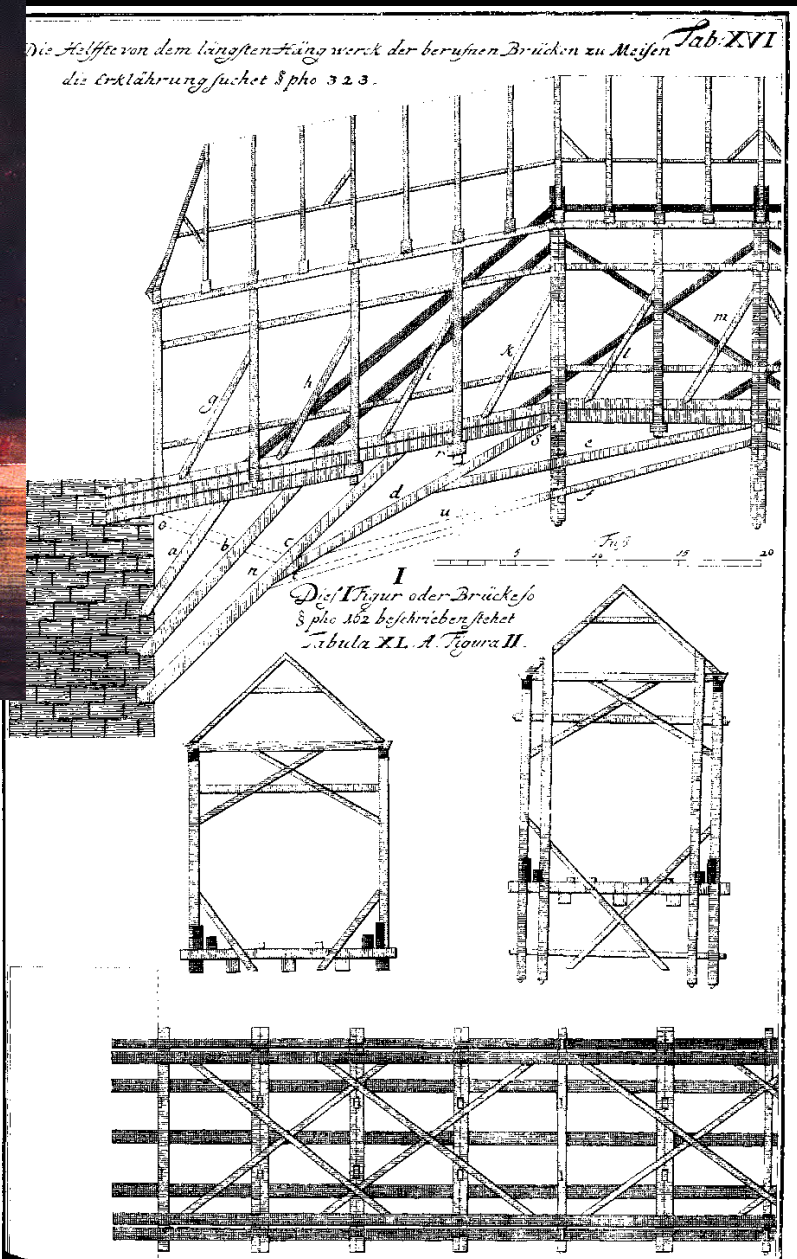


Fig. 6c: *Elbbrücke in Meissen*, Germany as published in 1726 in Jacob Leopold's "Theatrum Pontificiale".





Fig. 7a: Covered bridge over the river *Flöha* in *Hohenfichte*, Saxony, Germany. Overall length is 54 m (177 ft.).

Fig. 7b: Covered bridge over the river *Ilm* in *Buchfahrt*, Thuringia, Germany. Overall length is 43 m (141 ft.).





Fig. 8a+b: Covered bridge in *Wünschendorf*, Thuringia, Germany. Built in 1786, it still carries motor vehicles. The piers are unusually massive for such a small stream. They were designed to withstand ice.





Fig. 9a+b: Covered bridge in *Wünschendorf*, Thuringia, Germany. Massive wooden baulks allowed the designer to use a simple extended queen-post system.







Fig. 10a: Covered bridge in *Hiltensweiler*, Baden-Württemberg, Germany. This original 18th Century bridge was once part of a national road connecting Bavaria with Switzerland through Württemberg.

Fig. 10b: Wooden model of the *Hiltensweiler* covered bridge under construction (22 June 2011). It is still not finished!





Fig. 11a: Covered bridge in  
Hiltensweiler, Baden-  
Württemberg, Germany.  
Longitudinal section  
showing saw-tooth jointing  
in the lower chord.

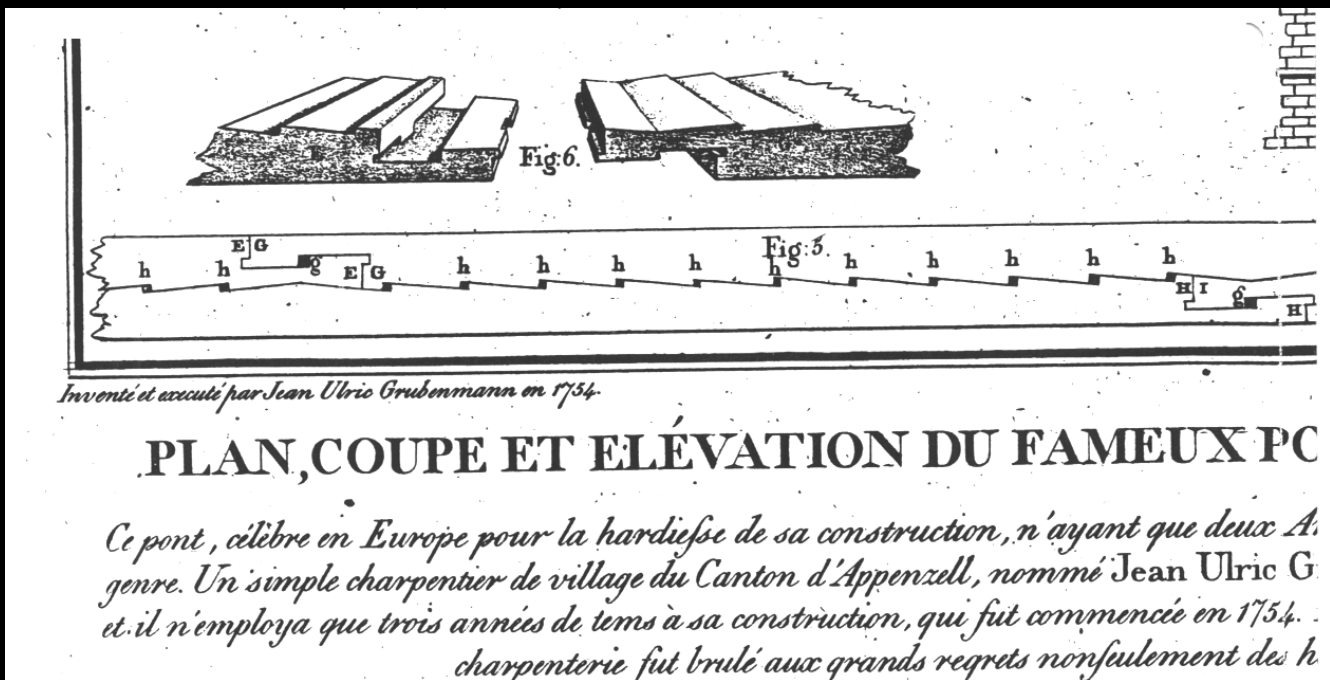
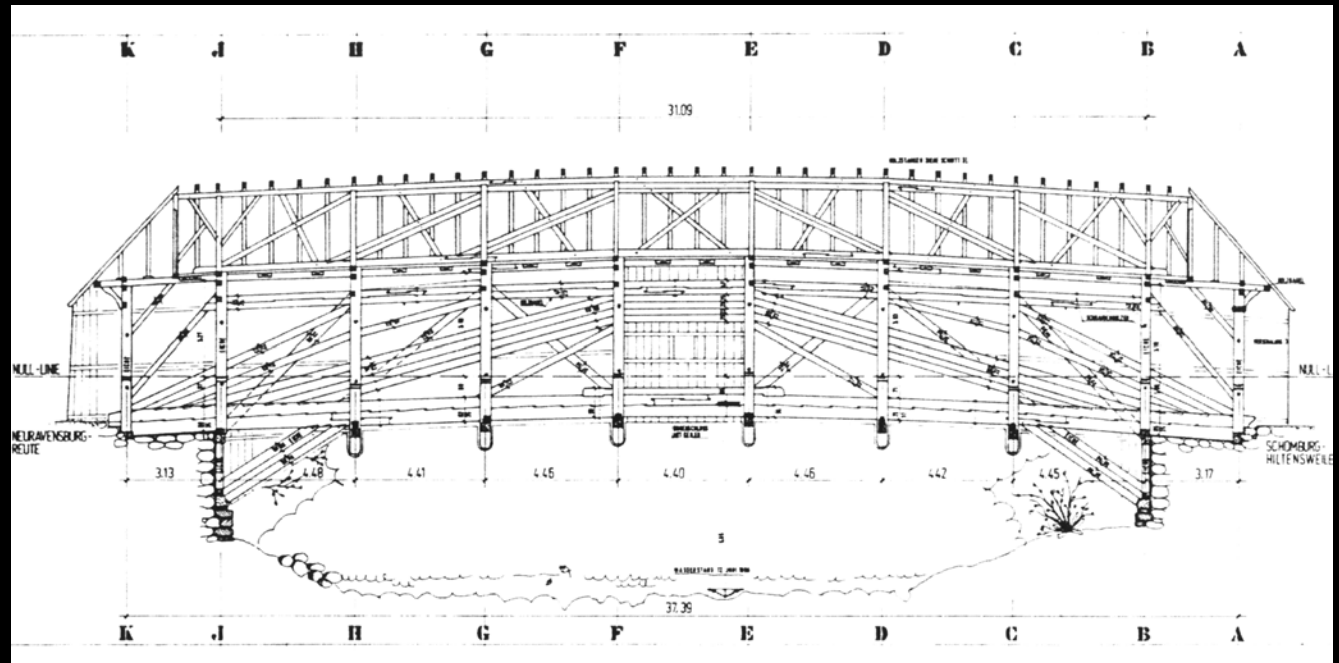


Fig. 11b: Detail taken from  
Mechel's recording of the  
covered bridge over the  
river Rhine at Schaffhausen,  
Canton Schaffhausen,  
Switzerland (Mechel 1802).





Fig. 12a + b: Covered bridge in *Hiltensweiler*, Baden-Württemberg, Germany. The bridge was constructed in 1790 with a 30 m (98 ft.) free span and was part of the main infrastructure in the Lake Constance region linking important commercial centers in Southern Germany and Switzerland . The year 1798 is written in the graffiti!







Fig. 13a: *Rheinbrücke* at *Bad Säckingen*, Baden-Württemberg, Germany. Seven individual spans add up to an overall length of over 204 m (670 ft.).

Fig. 13b: Covered Bridge at *Hartland*, New Brunswick, Canada. The bridge also has seven spans but is 1,282 ft. [390 m] long, which is the worlds longest historic wooden covered bridge still standing.





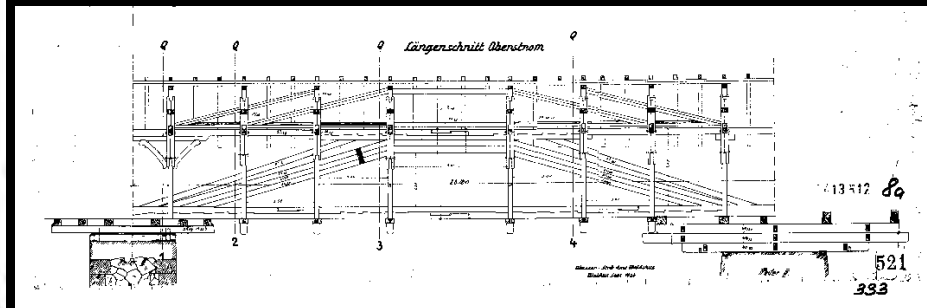
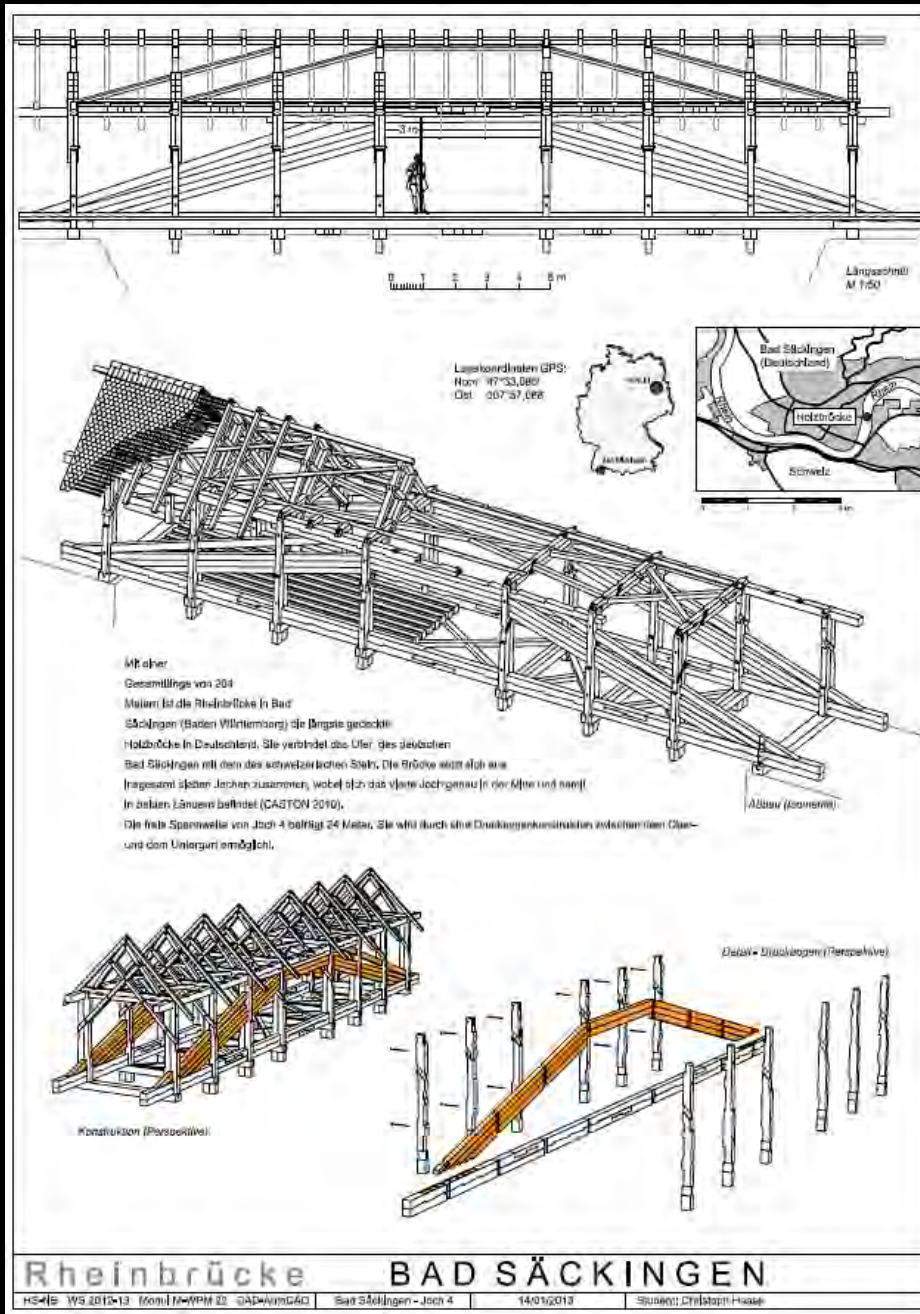


Fig. 14a, b + c: Rheinbrücke at Bad Säckingen, Baden-Württemberg, Germany.

Left: CAD 3D-Model of span 4, delineated by Christoff Hasse, stud. Top-right: span 4 - Recordings made in 1926; bottom-right: span 4 – Photographic documentation June 2009.





Fig. 15a: *Rheinbrücke* at *Bad Säckingen*, Baden-Württemberg, Germany. This historic photograph from the early 1960s shows the new concrete piers before they were clad in ashlar stones. The new piers stand on the old river bed.

Fig. 15b: *Rheinbrücke* at *Bad Säckingen*, Baden-Württemberg, Germany. This recent photograph shows high water in an average spring thaw period. Whilst not immediately dangerous, any large flotsam could wreck havoc. The bridge is acutely at danger from unusually high flooding and could be one of the first victims of climate change.





Fig. 16a: *Rheinbrücke* in *Bad Säckingen*, Baden-Württemberg, Germany. In the last five years the fire brigade was called out twice and managed to avert two arson attempts. In the early hours of 1st. November 2004 a 5 gallon canister of petrol was hidden behind the bridge statue and ignited. Luckily there was no serious damage.



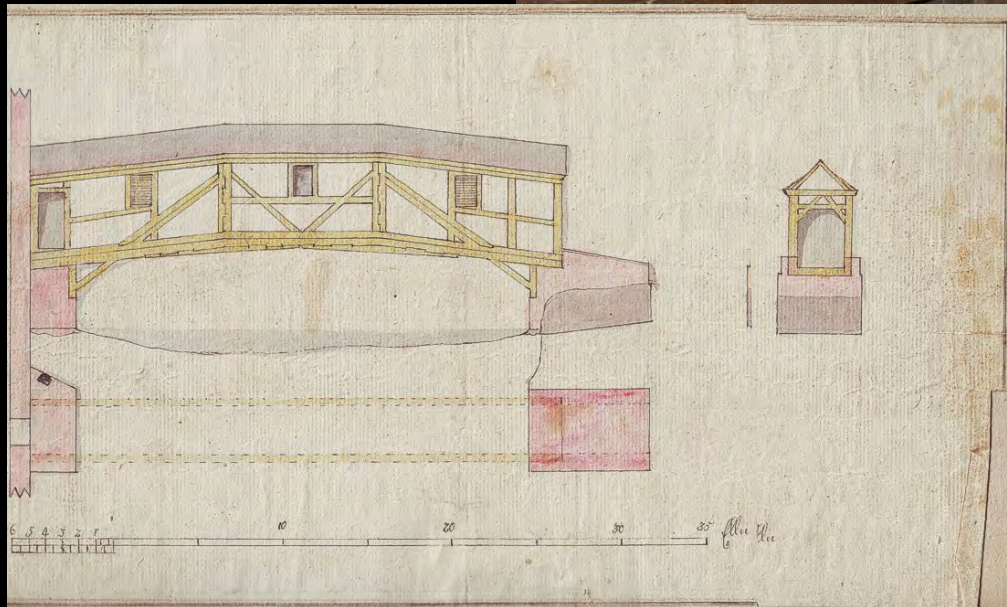
Fig. 16b: *Rheinbrücke* in *Bad Säckingen*, Baden-Württemberg, Germany. The second arson attempt occurred in the early hours of the 9th. August 2006. A fire was lit from the path underneath the first span. Again the fire brigade responded quickly and only some minor charring occurred. The bridge has since been fitted with video cameras, but is this enough?





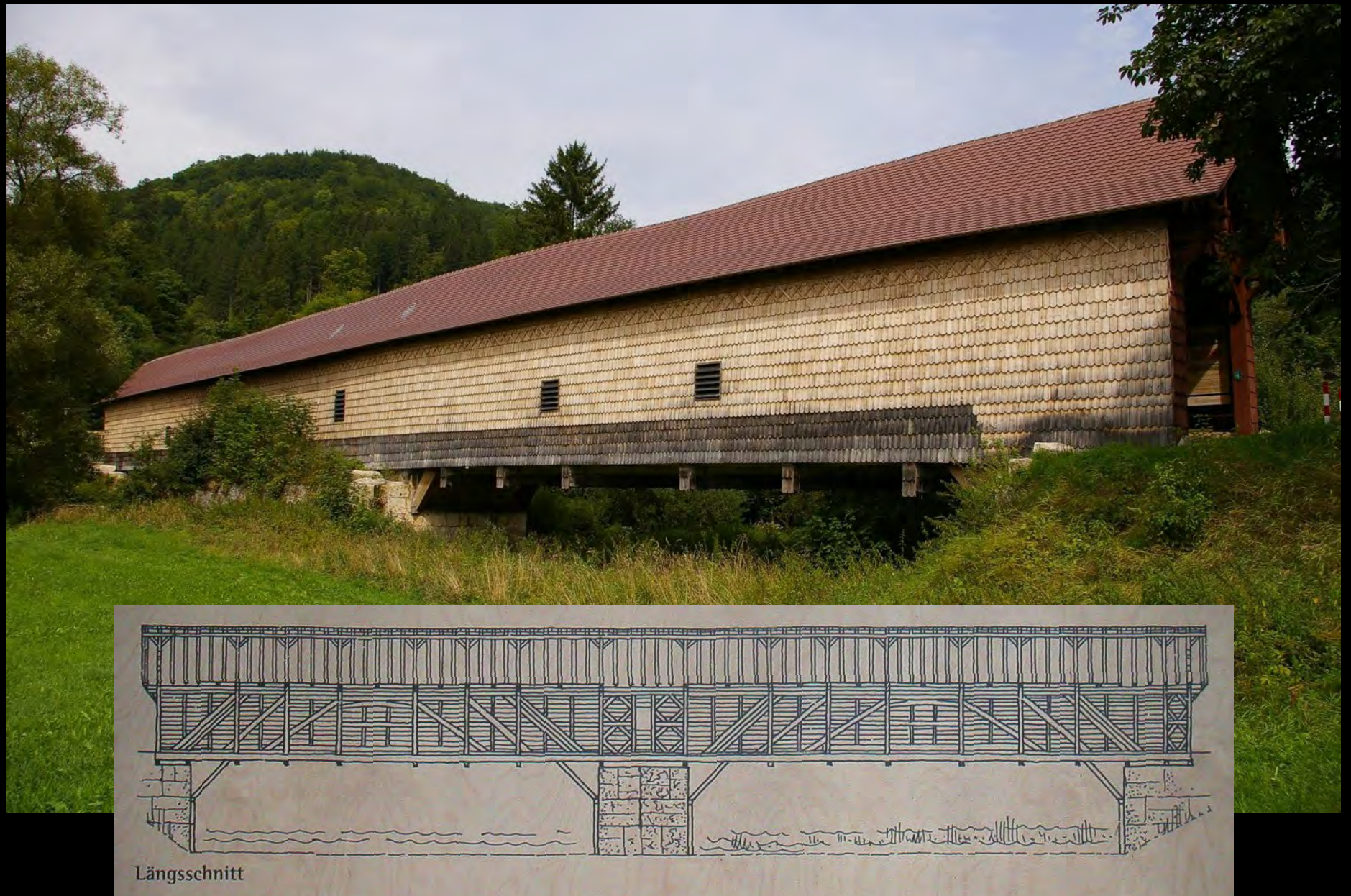
17. *Döhlen*, Thuringia, Germany. *Rectory Bridge* was built in 1799 (photo: Caston 07/12/2009).





18. *Döhlen*, Thuringia, Germany. Interior of *Rectory Bridge* and original design drawing from 1799 (photo: Caston 07/12/2009).





19. Covered Bridge over the river *Danube* at *Beuron*, Baden-Württemberg, Germany built 1801 (photo: Caston 22/08/2008).





20. Covered Bridge over the river *Rhine* at *Jestetten*, Baden-Württemberg, Germany and *Rheinau*, Switzerland.





21. *Spittelbridge* over the town moat in *Bad Langensalza*, Thuringia, Germany (photo: Caston 17/07/2007).





22. Covered bridge at the river *Necker* (over the city canal) in *Esslingen*, Baden-Württemberg, Germany (photo: Caston 13/08/2008).





23 a+b. The *Rippergbrücke* over the river *Kocher* at *Schwäbisch-Hall*,  
Baden-Württemberg, Germany (photo: Caston 27/08/2007).







Fig. 1. Brücke über den Chippewa auf der Cornerhead-Eisenbahn.

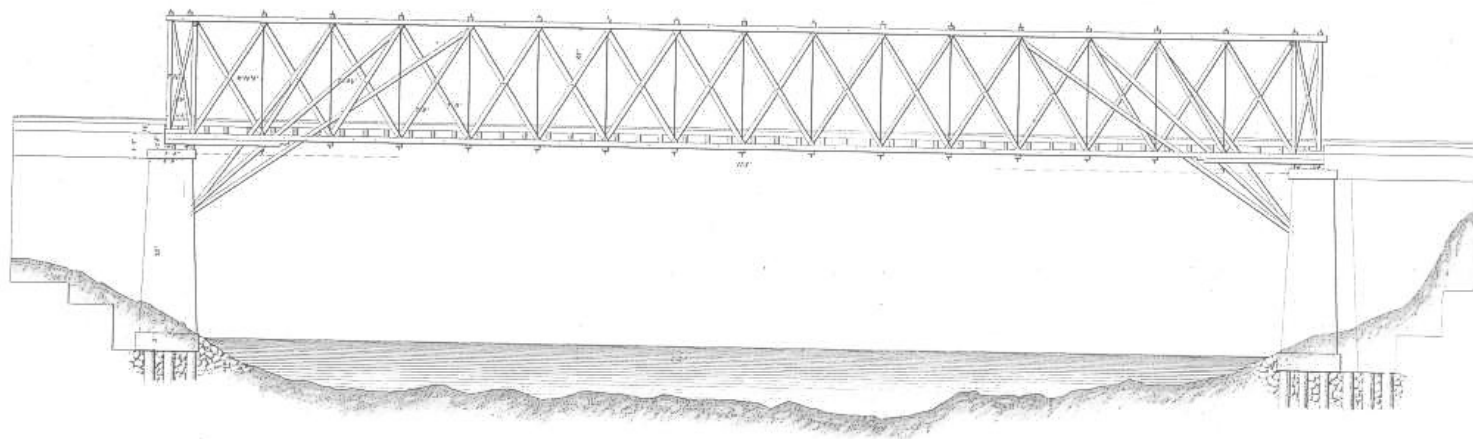


Fig. 6.

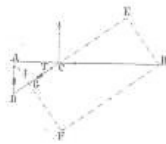


Fig. 2.

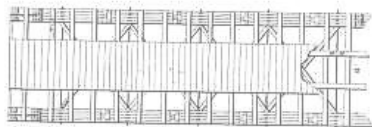


Fig. 4.



Fig. 3.

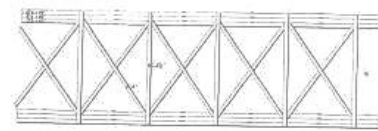


Fig. 5.







26. The *King-Ludwig-Bridge* over the river *Iller* at *Kempton-St. Mang*, Bavaria, Germany. The design is based on the bridge over the river *Connecticut* in *Springfield*, Massachusetts, USA (photo: Caston 30/07/2008).



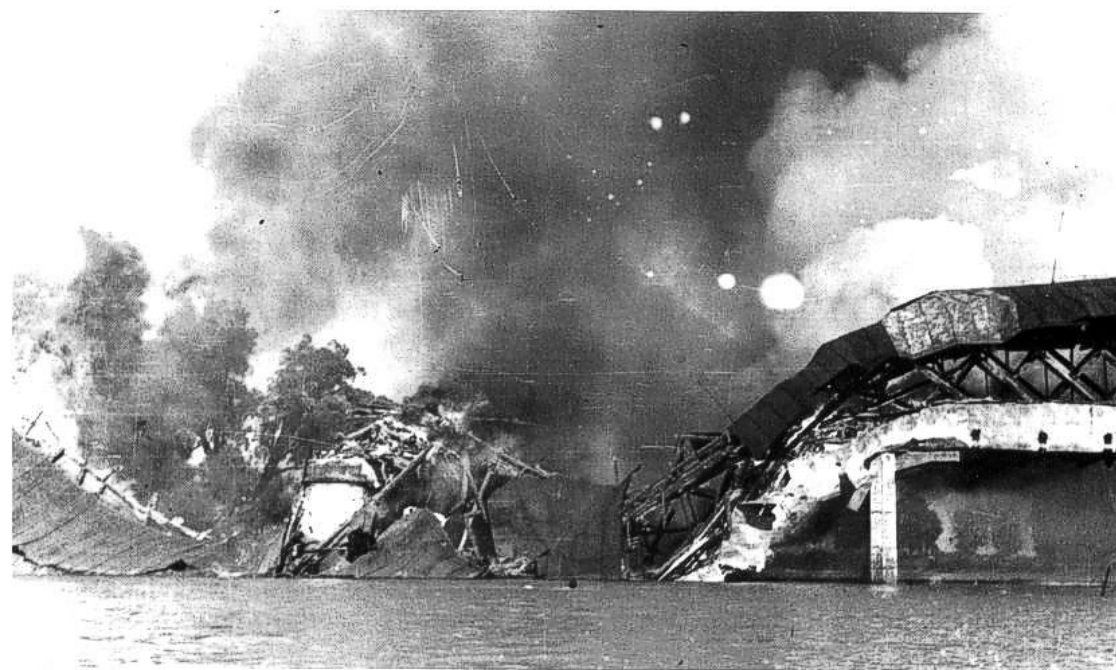


27. The *Rottbridge* over the river *Rott* near *Neuhaus-Mittich*, Bavaria. The remains of the foundations of supports added in 1947 and removed in 1983 were left in the river and are still visible (photo: Caston 13/09/2007).





28. The *Outer Danube bridge* at *Straubing*, Bavaria, Germany. It was accidentally destroyed on the 29th July 1934 (photo: Vicari 1991).





A nighttime photograph of a covered wooden bridge spanning a river. The bridge is illuminated with warm, golden lights, and its reflection is visible in the water. In the background, a church tower with a golden dome is lit up against the dark sky. The scene is framed by a black border.

Thank you for listening.

[caston@hs-nb.de](mailto:caston@hs-nb.de)

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**Eriskirch  
(DE-BW-ERI)**

Datiert: 1828 (Renov. 1983)  
(Quelle: Brückeninfotafel)  
Fluss: Schussen  
Verz. World Guide: GE-01-28  
Länge/fr. Spannweite: 29,7 m / 23,3 m  
Lit.:  
N47° 37,704' E009° 31,912'  
UTM 32 T 0539959 (O) 5275137 (N)



**Esslingen am Neckar  
(DE-BW-ESS)**

Datiert: 1823 (WGCB)  
Fluss: Neckar  
Verz. World Guide: GE-01-43  
Länge/fr. Spannweite: 34,4 m / 9,8 m  
Bauart: „stringer“  
Lit.:  
N48° 43,985' E009° 18,794'  
UTM 32 U 0523033 (O) 5397831 (N)



**Föhlschmitten  
(DE-BW-FOH)**

Kolumban Brücke  
Datiert: 1792 (Renov. 1963)  
Fluss: Obere Argen  
Verz. World Guide: GE-01-33  
Länge/fr. Spannweite: 32,0 m / 26,6 m  
Lit.:  
N47° 38,449' E009° 45,563'  
UTM 32 T 0557039 (O) 5276659 (N)



**Forbach  
(DE-BW-FOR)**

Datiert: 1955 (Wunsch 1976)  
Fluss: Murg  
Verz. World Guide: GE-01-01  
Länge/fr. Spannweite: 44,6 m / 37,8 m  
Lit.: Wunsch 1976, Hempel 1955  
N48° 40,666' E008° 21,679'  
UTM 32 U 0452984 (O) 5391832 (N)



**Hiltensweiler  
(DE-BW-HWR)**

Datiert: 1790 (Renov. 1983)  
(Quelle: Brückeninfotafel)  
Fluss: Obere Argen  
Verz. World Guide: GE-01-16  
Länge/fr. Spannweite: 37,4 m / 31,0 m  
Lit.: Landratsamt 1987  
N47° 39,103' E009° 46,585'  
UTM 32 T 0558306 (O) 5277884 (N)



**Immendingen  
(DE-BW-IMD)**

Zimmernbrücke  
Datiert: 1947 (Quelle: Brücke)  
Fluß: Donau  
Verz. World Guide: GE-01-14  
Länge/fr. Spannweite: 23,7 m / 21,4 m  
Lit.:  
N47° 55,842' E008° 42,633'  
UTM 32 T 0478379 (O) 5308639 (N)



**Karlsruhe  
(DE-BW-KAR)**

Datiert: 1905 (WGCB)  
Fluss: Alb  
Verz. World Guide: GE-01-31  
Länge/fr. Spannweite: 18,3 m / 15,5 m  
Bauart: „Queen“  
Lit.:  
N49° 00,021' E008° 22,338'  
UTM 32 U 0454089 (O) 5427685 (N)



**Kirchberg an der Jagst  
(DE-BW-KIR)**

Datiert: um 1800 (Renov. 1978)  
(Quelle: Brückeninfostein)  
Fluss: Jagst  
Verz. World Guide: GE-01-32  
Länge/fr. Spannweite: 27,0 m / 27,08 m  
Lit.:  
N49° 11,931' E009° 59,488'  
UTM 32 U 0572229 (O) 5450035 (N)

Fig. 30: Basic inventory of Germany's remain historic wooden covered bridges.





Hochschule Neubrandenburg  
University of Applied Sciences

Schriften

REIHE J

Germany's Remaining Historic Wooden Covered

Deutschlands erhaltene historische gedeckte

### Hiltensweiler

DE-BW-HWR

Location / Ort: Hiltensweiler

State / Bundesland: Baden-Württemberg

Bridgename / Name der Brücke: -

Erected / Erbaut: 1790

Crossing / Hindernis: Obere Arge

World Guide (1980): GE-01-16

Length / Länge: 41,0 m

Free Span / freie Spannweite: 31,1 m

Spans / Anzahl der Joche: 1

Trusstype / Trägertyp: Polygonal arch

Location Coordinates: UTM: 32 T 1

Lagekoordinaten: Geo.: 147°



041 Hiltensweiler. North elevation. / Nordansicht.



042 Hiltensweiler. End elevation. / Endansicht.



043 Hiltensweiler. Polygonal arch truss. / Polygonale Archstuhl.



044 Hiltensweiler. Horizontal roof bracing. / Waagrechte Dachverstrebung.



045 Hiltensweiler. Floor bracing and crossbeams. / Kreuz- und Querbalken.

Fig. 31a, b, c + d: Germany's Remaining Historic Wooden Covered Bridges (*Deutschlands erhaltene historische gedeckte Holzbrücken*) was published in 2010. All 70 known bridges are shown with five pictures and basic data including geographical and GPS location coordinates.



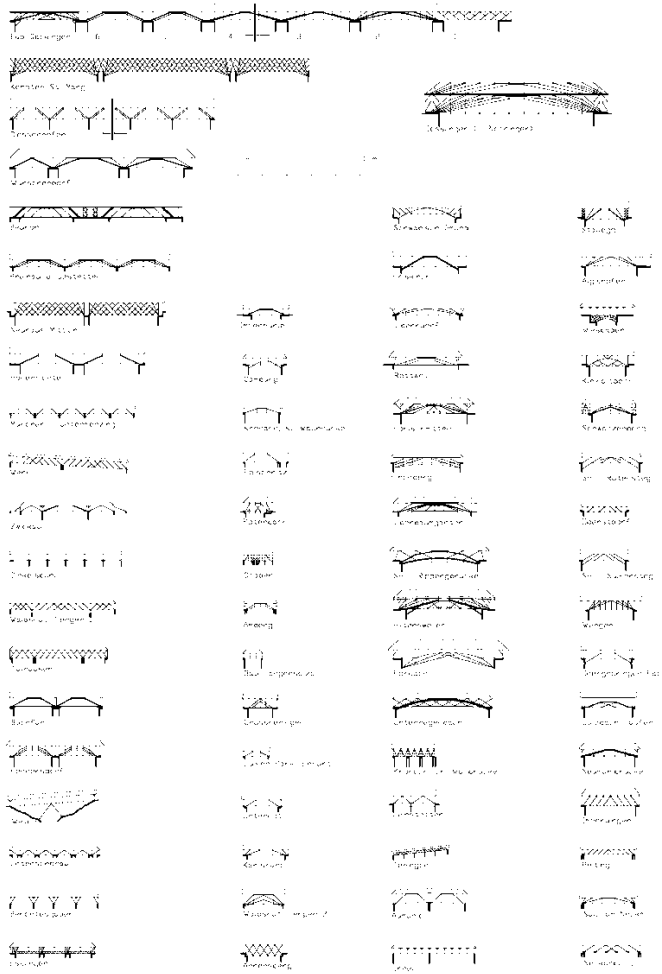


Fig. 32a: Schematic comparison of truss types at same scale. This very limited graphical representation reduces the bridge to just basic information about size and proportion. It is ideal for comparisons of the basic structure.

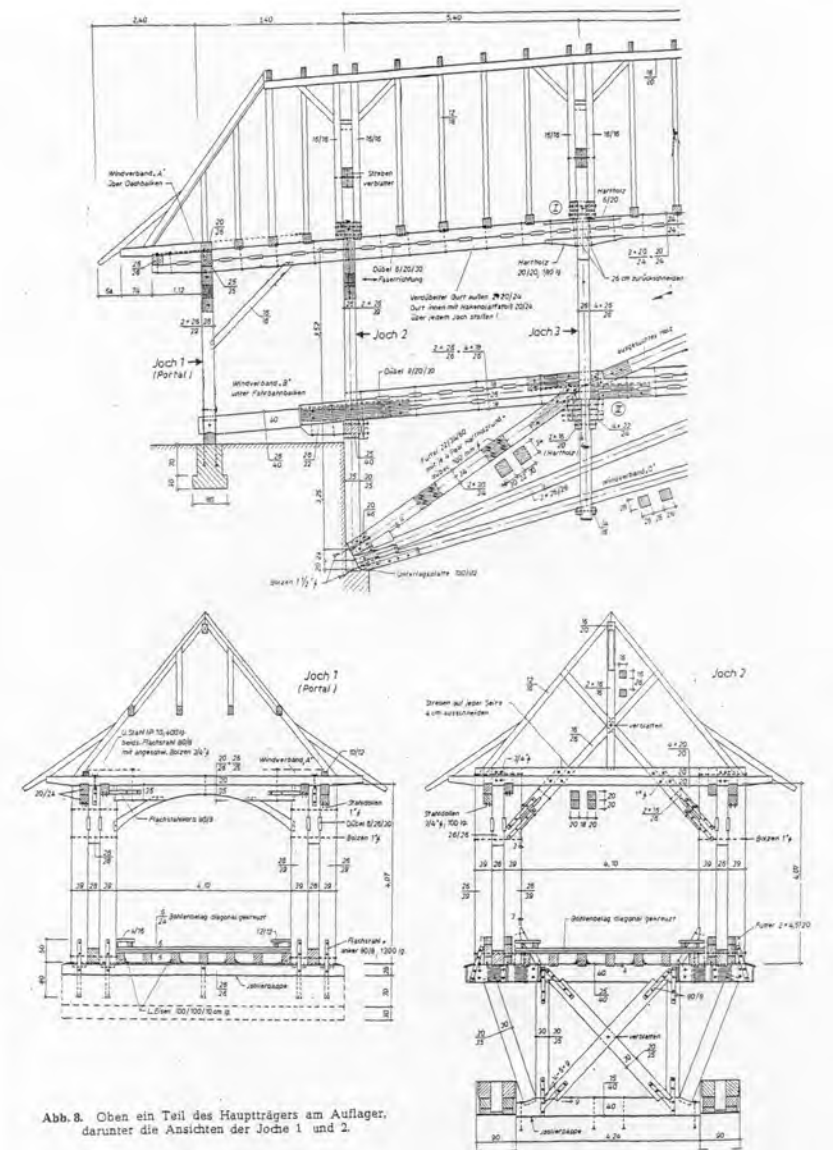


Fig. 32b: An engineering drawing or a technical recording gives a clear representation of the basic dimensions and construction. It is ideal for new construction work, but not for recording the important historical details.



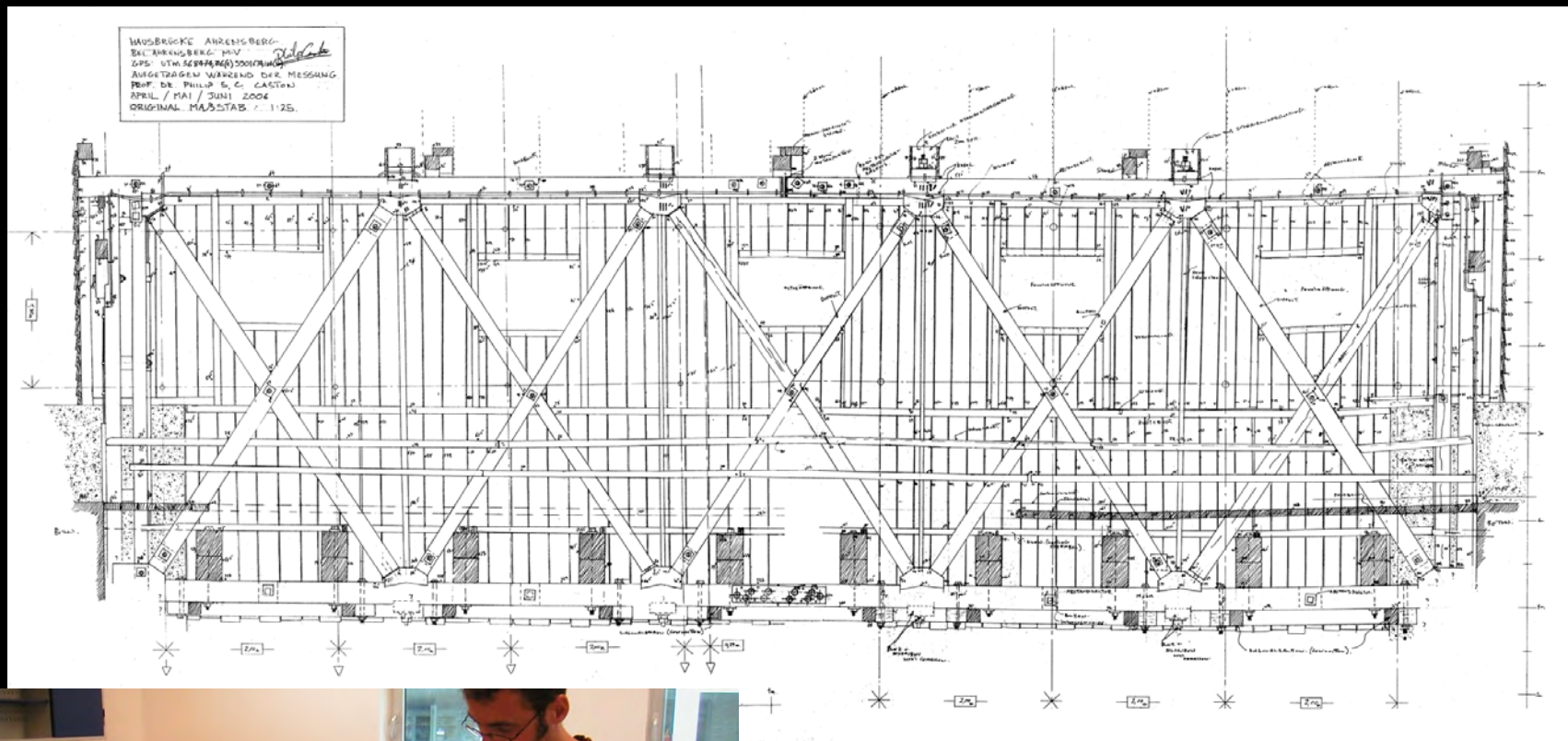


Fig. 33a: A measured drawing of a German covered bridge. With the advent of laser-scanners, digital cameras and similar technologies, the contemporary interpretation of the historic bridge very often takes place on the monitor and not at the source itself. A traditional measured drawing is still the best method of interpreting the studied object for relevant facts because the investigator is not remote from the object.

Fig. 33b: A wooden model of the same bridge at a scale of 1:20. Building a model is an excellent way to understand the assembly and the three-dimensional characteristics of historic covered bridges. The model maker is forced to deal with awkward details very often not shown in two-dimensional drawings. In recent years advances in CAD have allowed virtual models to rival wooden models for presentations, but these still hide behind the monitor and cannot be physically touched.