

February 7, 1843.

The PRESIDENT in the Chair.

The following candidates were balloted for, and duly elected :—

The Chevalier George Benkhausen; George Ledwell Taylor; Edmund Scott Barber; Thomas Barton; Thomas Evans Blackwell; and William Spence; as Associates.

No. 558. “Description of a Drawbridge at Bowcombe Creek, near Kingsbridge, Devon.” By George Clarisse Dobson, Assoc. Inst. C. E.

Draw-
bridge.

This Drawbridge spans one of five openings in a stone bridge, built across a navigable branch of Salcombe Harbour; it is in one leaf, 15 feet 9 inches wide, and 32 feet long, from out to out, supported upon a cast-iron shaft or axle, placed 7 feet 6 inches from the inner end, working in the abutment pier, which is built hollow to receive it, and thus the part within the axle end acts as a counter weight.

To the centre of the end cross-beam of the counter part, a chain is attached, and after passing over cast-iron sheaves in the masonry of the face of the abutment, is coiled on a drum fixed on a horizontal shaft, carrying on one end a pinion, worked by a rack, attached to the piston of the hydraulic press; by this means, motion is given to the shaft and drum, and consequently to the leaf of the bridge. Balance-boxes are hung to the counter-end, by which the shutting is regulated. The struts for supporting the leaf, when raised, are also thrown in and out of their places by a rack and pinion.

The hydraulic press used for opening and closing the bridge, is simple in its construction, and the whole works so easily, that a female can open and close the bridge in about 15 minutes, without difficulty. The fresh water used for the pump is contained in a cistern, beneath, and seldom wants replenishing, as it is returned into the reservoir every time after being used.

The bridge was designed and erected by Mr. J. M. Rendel, about 12 years since, when he was engaged in improving the turnpike road in the south of Devon.

The expense of repairing, oiling, packing, &c., since its erection, has averaged under £7 per annum, including a small salary to a neighbouring millwright for occasional inspection.

The communication is accompanied by a drawing, showing a plan and sectional elevation of the bridge and the machinery.
