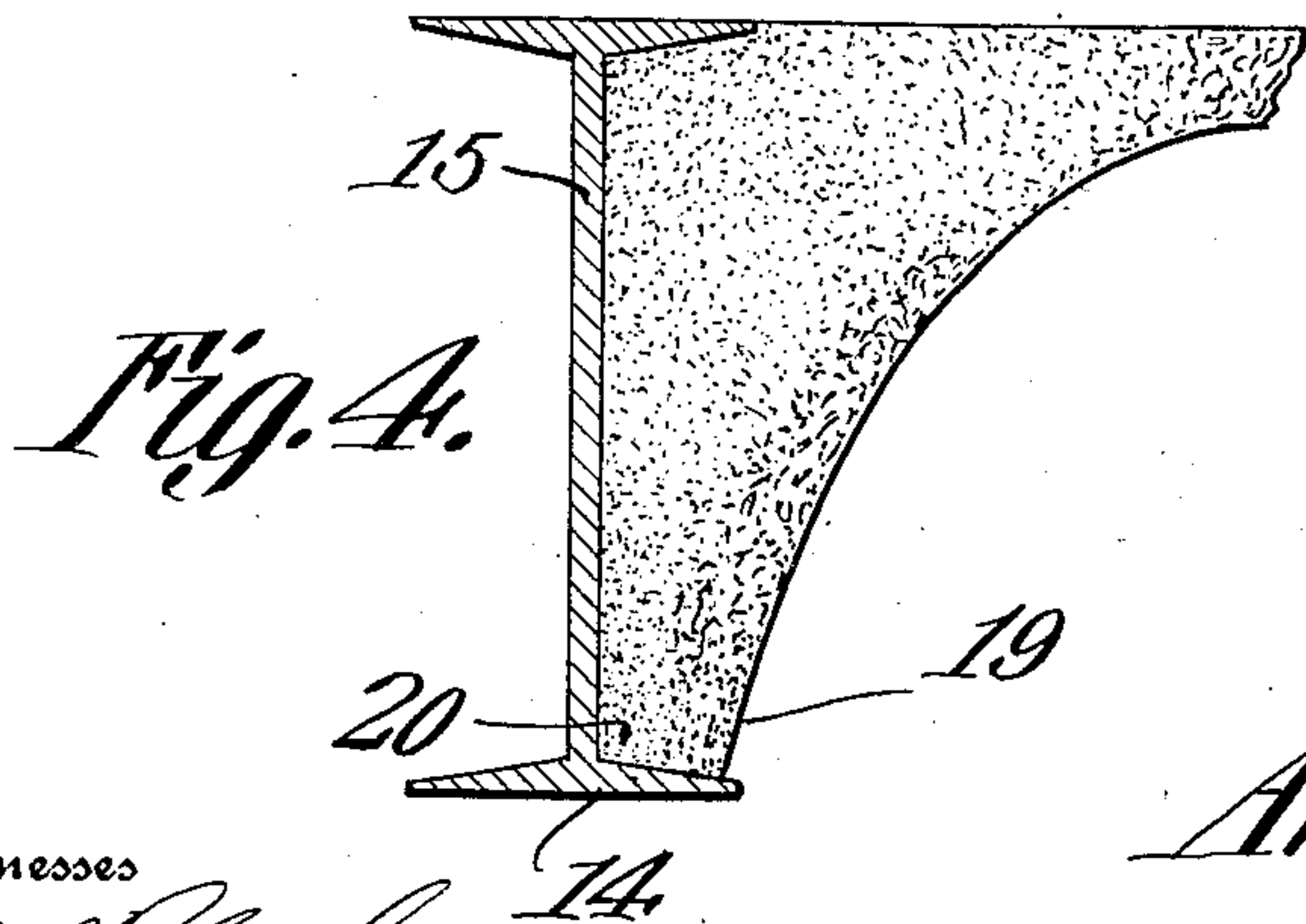
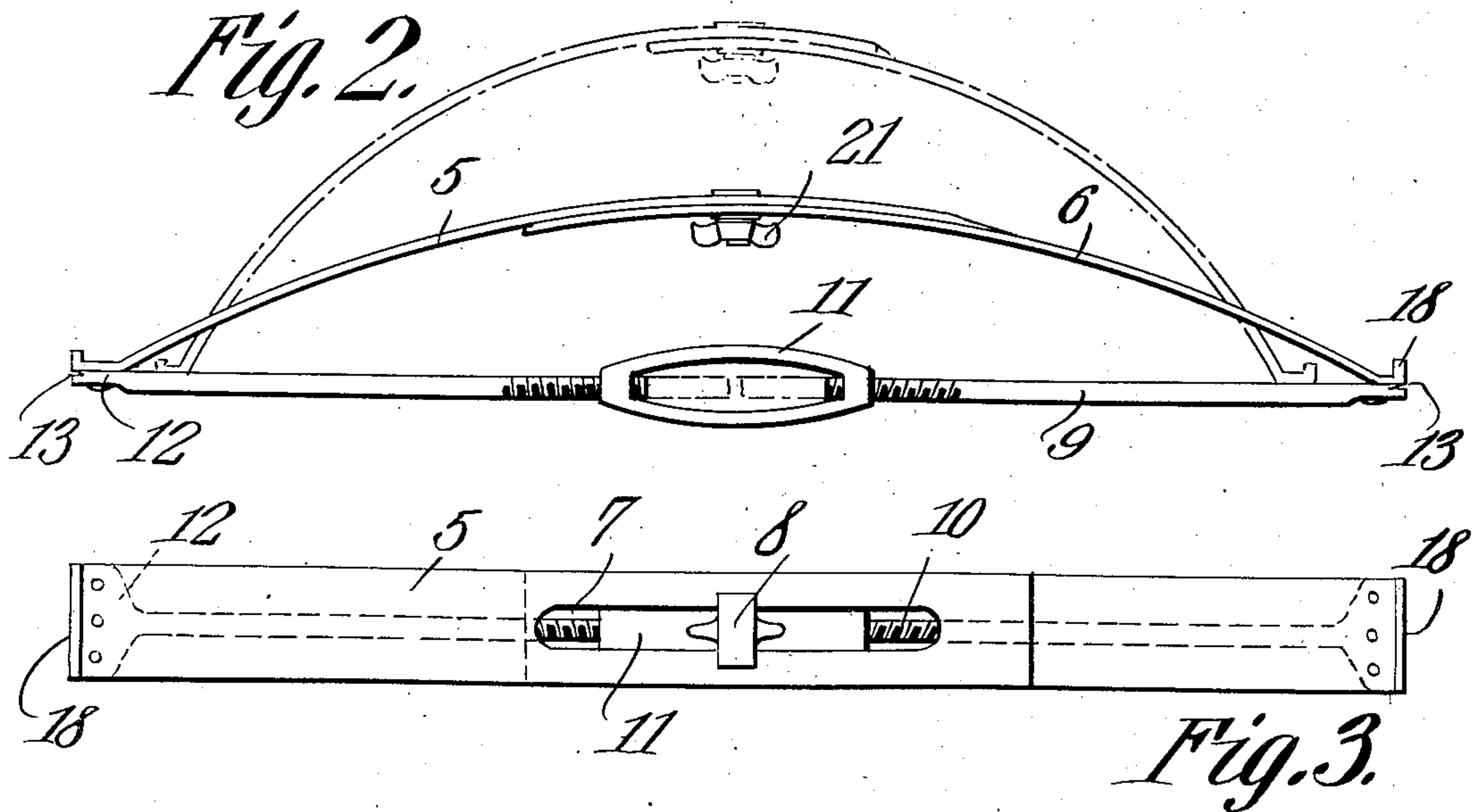
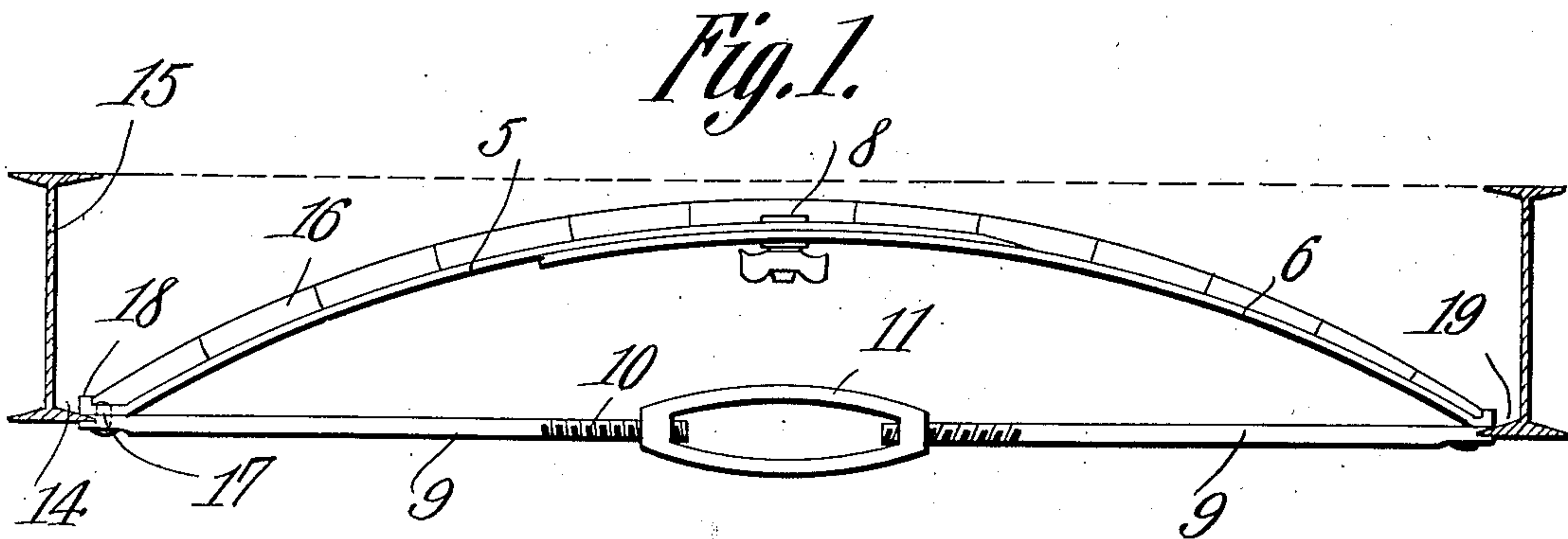


A. R. SMITH.
 COLLAPSIBLE ARCH CENTERING FORM.
 APPLICATION FILED JULY 14, 1908.

938,718.

Patented Nov. 2, 1909.



Witnesses
E. W. H. H. H.
L. H. H. H.

Inventor
Ansel R. Smith.
 By *C. A. Snow & Co.*
 Attorneys

UNITED STATES PATENT OFFICE.

ANSEL R. SMITH, OF MARION, INDIANA.

COLLAPSIBLE ARCH-CENTERING FORM.

938,718.

Specification of Letters Patent.

Patented Nov. 2, 1909.

Application filed July 14, 1908. Serial No. 443,576.

To all whom it may concern:

Be it known that I, ANSEL R. SMITH, a citizen of the United States, residing at Marion, in the county of Grant and State of Indiana, have invented a new and useful Collapsible Arch-Centering Form, of which the following is a specification.

This invention relates to centering forms for concrete and masonry constructions and has for its object to provide a strong, durable and thoroughly efficient device of this character especially designed for use in the construction of bridge floors, culverts and other arched structures.

A further object of the invention is to provide a centering form including flexible form supporting plates having their opposite ends connected by an adjustable spreading device whereby the form may be used for making arches of different radii.

A further object is to form the terminals of the spreading device with transverse seating grooves for the reception of the flanges of adjacent I beams when the device is used for making arched bridge floors and the like.

A still further object of the invention is generally to improve this class of devices so as to increase their utility, durability and efficiency.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claim.

In the accompanying drawings forming a part of this specification: Figure 1 is a side elevation of a collapsible arch centering form constructed in accordance with my invention, showing the same in position between adjacent I beams of a bridge structure. Fig. 2 is a similar view of the device detached showing in dotted lines the arch forming plates in adjusted position. Fig. 3 is a top plan view. Fig. 4 is a detail sectional view of one end of the completed arch.

Similar numerals of reference indicate corresponding parts in all of the figures of the drawings.

The improved centering device forming the subject matter of the present invention includes co-acting arch forming members 5 and 6, preferably formed of flexible metal and having their inner ends over-lapped and slotted at 7 for the reception of a clamping

screw or similar fastening device, indicated at 8.

The intermediate portions of the members 5 and 6 are bowed or curved upwardly, while the opposite ends thereof are riveted or otherwise rigidly secured to a spreading device preferably in the form of a pair of longitudinally disposed rods 9.

The inner ends of the rods 9 are threaded at 10 for engagement with a correspondingly threaded turn buckle 11 whereby the rods 9 may be adjusted so as to adapt the device to arches of different widths.

The outer or free ends of the rods 9 are provided with enlarged heads 12 having transverse seating recesses 13 formed therein for the reception of the flanges 14 of adjacent I-beams, indicated at 15.

The members 5 and 6 are designed to receive and support a form 16, the outer ends of said members at the rivets 17 being bent upwardly to produce vertically disposed flanges 18 adapted to bear against the adjacent longitudinal edges of the form 16, as shown.

The flanges 18 not only serve to prevent accidental displacement of the form 16 but also serve to form a pocket 19 between the webs of adjacent I beams and said flanges for the reception of cement, concrete or other plastic material so that when the centering device is removed the concrete arch will be formed with oppositely disposed legs 20 resting upon the flanges of the I beams, as best shown in Fig. 4 of the drawings.

In using the device the flanges of the I beams are positioned within the seating recesses 13 and the plates or members 5 and 6 adjusted to form an arch of the desired radius, after which said members are locked in adjusted position by rotating the wing nut 21. The form 16 is then placed in position on top of the members 5 and 6 and the turn buckle 11 rotated thereby to clamp the centering device in position between the I beams, the cement or concrete being subsequently introduced between the I beams and tamped in the usual manner. After the cement has sufficiently set the wing nut 21 is loosened and the members 5 and 6 allowed to drop down in the direction of the clamping rods 9, the turn buckle 11 being subsequently rotated to release the recessed ends of the clamping rods from engagement with the I beams so that the centering device together with the form 16 may be removed

from the arch without danger of chipping, cracking or otherwise mutilating the finished arch way.

5 The device is extremely simple in construction and is so arranged as to permit the formation of arches, culverts and the like without the employment of the usual permanent or temporary scaffolding.

10 Having thus described the invention what is claimed is:

15 In an arch centering device, a form supporting member comprising a pair of arched and elastic plates, flat at their outer ends, and terminating in upstanding flanges, an adjustable connection between said plates for setting the same to the desired radius of the arch, the upstanding flanges being engageable with the longitudinal edges of the form for holding the same in place on the

supporting member, an adjustable sliding 20 member engageable at its ends with the flattened ends of the supporting member, fastening means passing through said flattened ends and through the ends of the sliding member, said sliding member having its 25 outer ends notched to receive the edges of the floor beams, whereby the device is supported by said beams, and means for lengthening and shortening the sliding member, whereby the device is set simultaneously for 30 arches of different spans and radii.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

ANSEL R. SMITH.

Witnesses:

MEADE S. HAYS,
WALTER W. FORD.