

(No Model.)

2 Sheets—Sheet 1.

A. M. SCOTT.
MOVABLE DAM.

No. 398,088.

Patented Feb. 19, 1889.

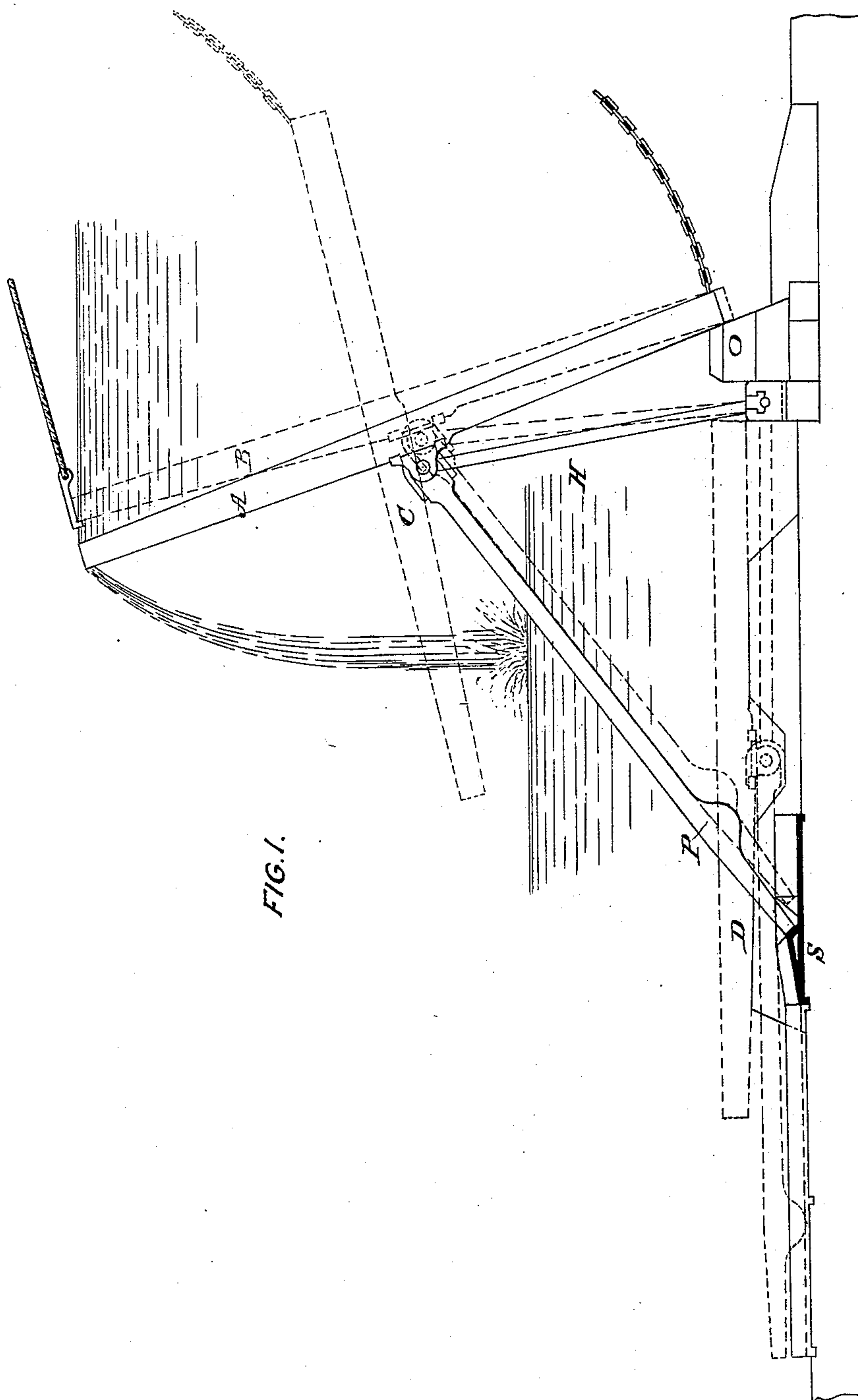


FIG. 1.

WITNESSES:

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P. B. Turpin

INVENTOR:

Addison M. Scott
BY *Wm L*

ATTORNEYS.

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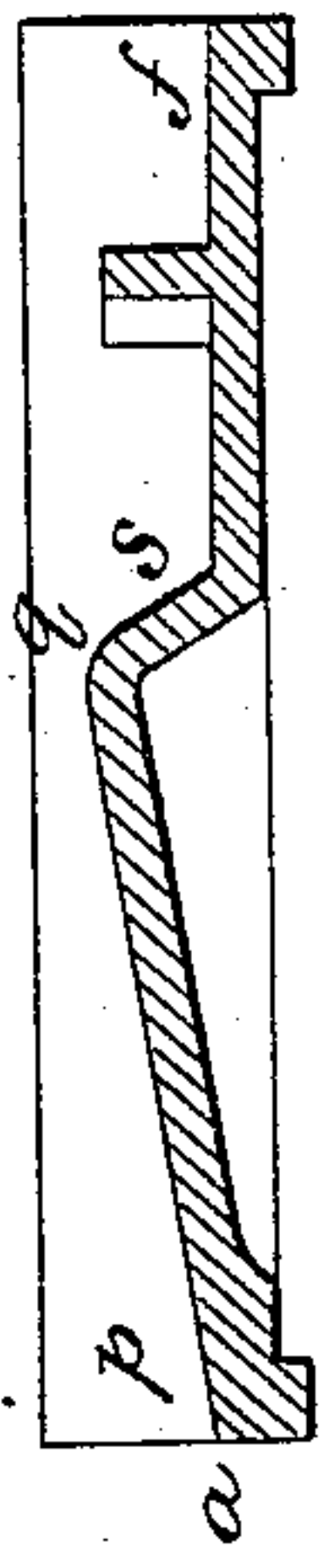
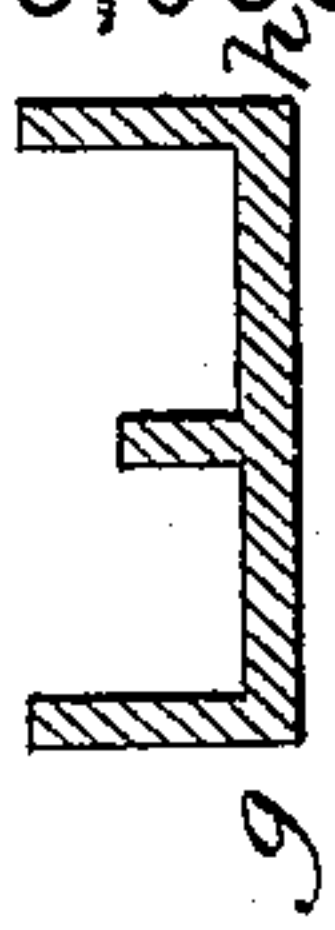


FIG. 3.

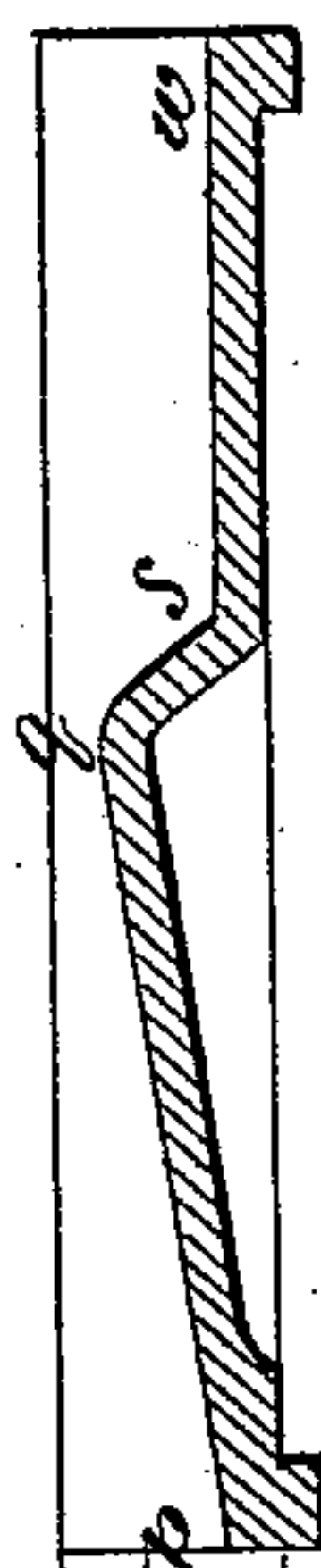
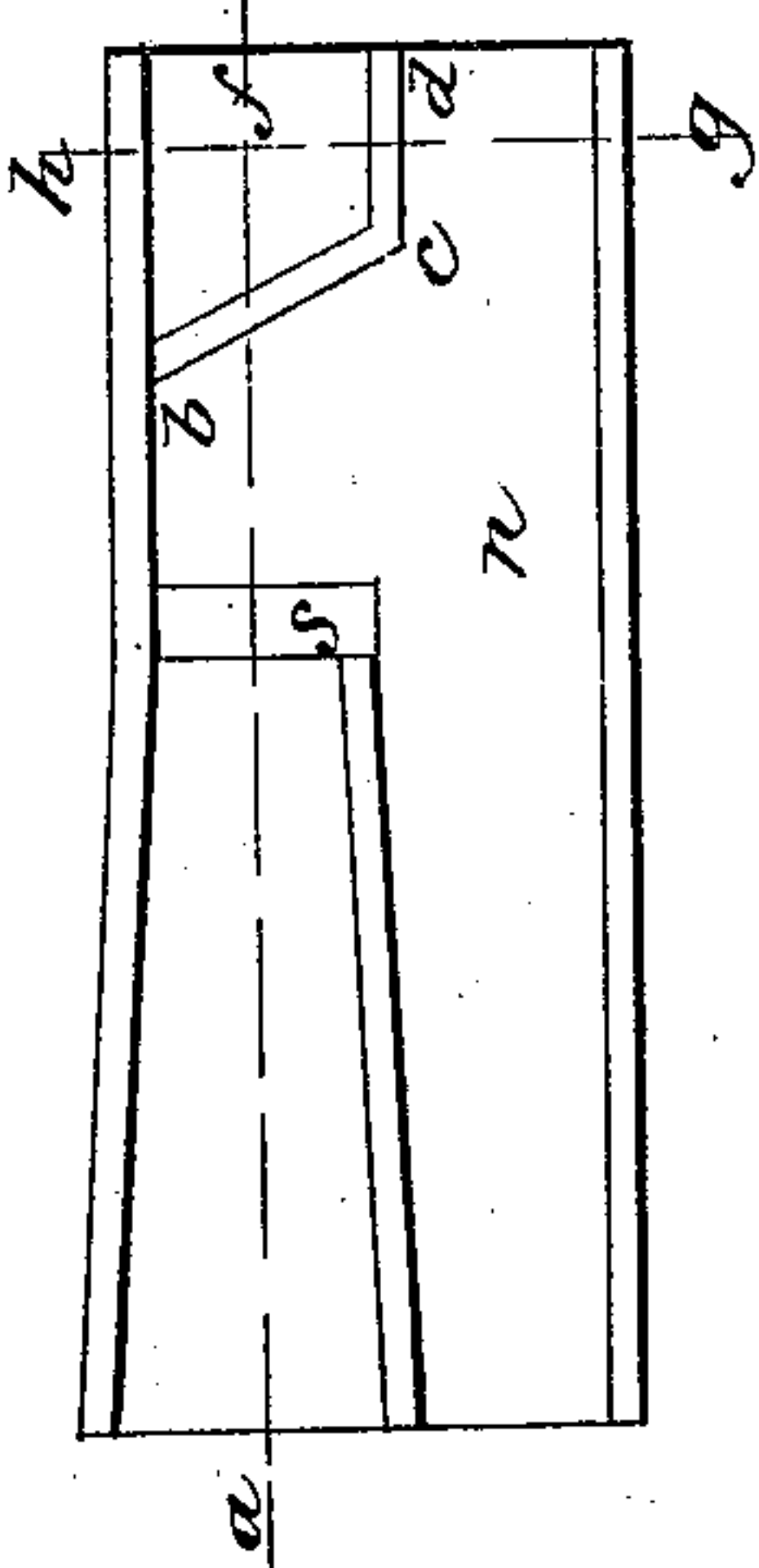


FIG. 2.

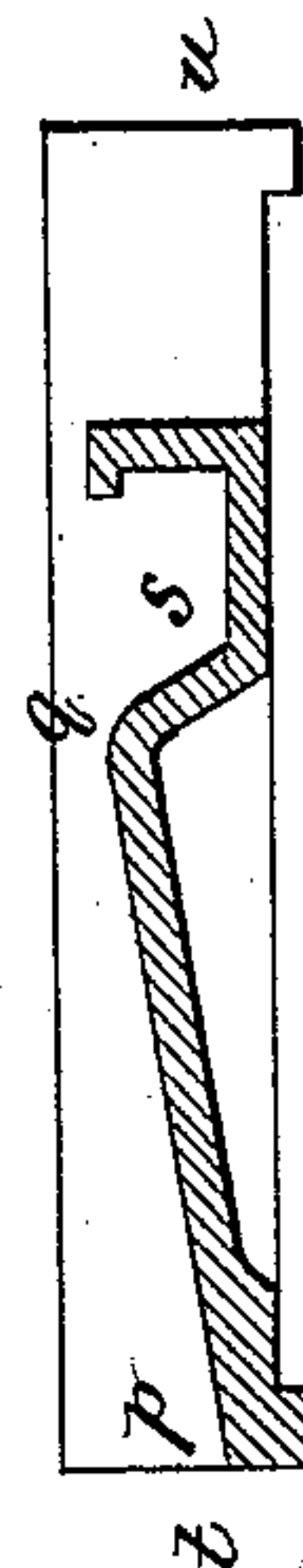
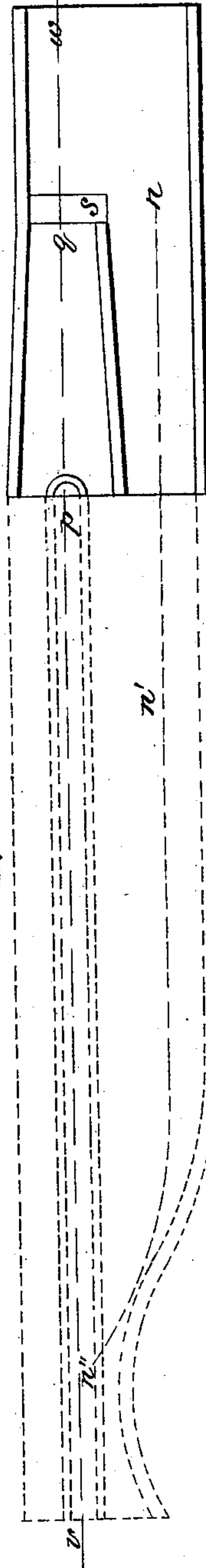


FIG. 4.

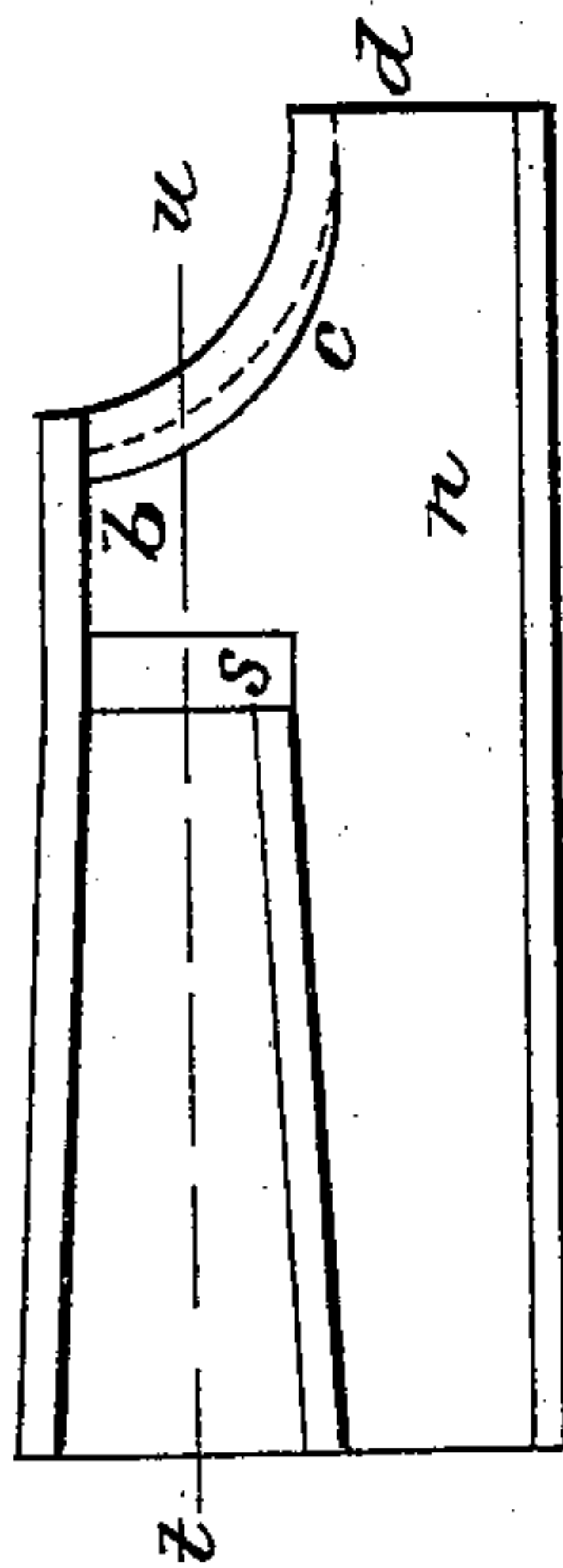
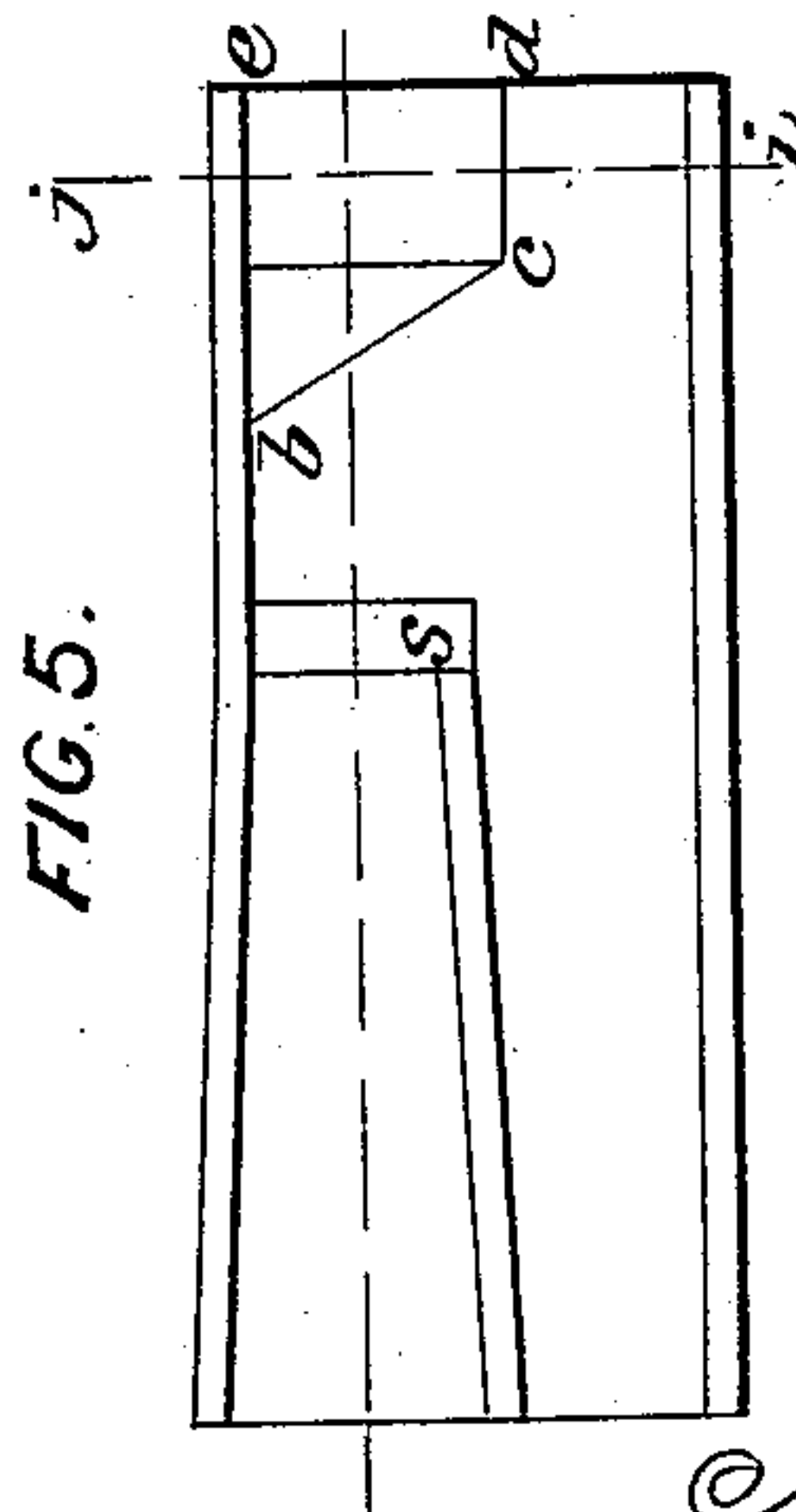


FIG. 5.



WITNESSES:

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UNITED STATES PATENT OFFICE.

ADDISON M. SCOTT, OF CHARLESTON, WEST VIRGINIA.

MOVABLE DAM.

SPECIFICATION forming part of Letters Patent No. 398,088, dated February 19, 1889.

Application filed May 3, 1888. Serial No. 272,733. (No model.)

To all whom it may concern:

Be it known that I, ADDISON M. SCOTT, a citizen of the United States, residing at Charleston, in the county of Kanawha and State of West Virginia, have invented a new and useful Improvement in Movable Dams of the Chanoine Type, of which the following is a specification.

Dams of this type for the improvement of rivers are mainly composed of a series of wickets or shutters, which, when erect, form the dam. When the wickets are erect, their principal support is a heavy iron prop or brace, the foot of which is held and in part guided by the heurter, (French *heurtoir*.) For the purpose of further guiding the end of the prop as the dam is raised or lowered, there is placed immediately below (downstream from) and connected with the heurter what is usually known in the United States as the "slide." The heurter and slide are generally of cast-iron, and are sometimes cast in one piece.

My invention relates to an improvement in the heurter, which is described herein and illustrated by the accompanying drawings in Figures 1 to 5, inclusive, on two sheets.

Fig. 1 of drawings shows a general section of a wicket or shutter dam of the type referred to. The wicket in standing position is indicated by A, supported by the prop P, the lower end of the prop resting against the seat S of the heurter.

The wickets, as shown, turn on a journal near the center, their lower ends resting against the sill O, allowing them to be pulled or placed into position known as "on the swing," (*en bascule*), shown by C. The horse H is also journaled at its lower axis immediately below the sill, as shown. When the foot of the prop is disengaged from the heurter-seat, the wicket with its prop and horse all fall down, the wicket taking position shown by D. This style of dam, known as the "Chanoine," with wickets so hinged and supported, has been extensively used in France for more than twenty years, and was adopted for the United States engineer improvement of the Great Kanawha river, in the United States, in 1875.

Fig. 2 shows a regular Chanoine heurter in plan and section, substantially as used in Europe and the United States. The slide be-

low the heurter is in dotted lines. The seat of the heurter, against which the end of the prop rests when the dam is up, is marked S. With the Chanoine heurter, when the wicket is to be lowered, the prop is disengaged or "tripped" by forcing it either by machinery (as with a tripping-bar) or by hand (as with a lever or hook) away from the seat S into the channel *n*, when the weight of the wicket and its attachments and the force of the water carry the wicket down, (into position D of Fig. 1,) the foot of the prop running freely down the descending channel of heurter and slide in the course indicated by the letters *n n' n''* of Fig. 2. When the wicket is raised, the end of the prop follows up the groove *v p* of slide and the inclined plane *p q* of heurter, dropping down into the heurter-seat S. With the Chanoine heurter, when the wicket is lowered with the tripping-bar, the prop is pulled by the bar out of the heurter-seat into the head of the descending channel, the bar being operated by gearing, &c., located at the end of the dam. When lowered by hand, the wicket is first drawn upstream to relieve the pressure of the end of the prop against the seat, and the prop is pulled or prized away from the seat by a hook or lever into the descending channel.

My improvement of the Chanoine heurter consists in adding or attaching a guide to the floor of the heurter, substantially as shown by Figs. 3, 4, and 5, for the purpose of causing the end of the prop to be carried directly, by an upstream pull of the wicket, on the floor of the heurter into the head of the descending channel when the wicket is to be lowered.

The guide is susceptible of various forms and designs, some of which are shown on Figs. 3, 4, and 5, and marked *b c d* or *b c d e* in plan.

Fig. 3 shows the guide added to an ordinary Chanoine heurter.

In Fig. 4 the guide forms also a part of the right-side flange of the heurter.

The object and working of my improvement will be understood from the drawings and the description herein given. In Fig. 1 the position B shows the wicket drawn upstream by the top. Position C shows the wicket also drawn upstream, but by the bottom, it being held on the swing. In draw-

ing the wicket to either position B or C from the standing position A the foot of the prop, instead of being drawn in an upstream direction, will be carried directly by the guide out
5 of the line of the seat and on a level into the head of the descending channel in position to allow the wicket to go down, as before described.

I am aware that heurters or modified devices
10 for similar use have been invented in the United States, and are now in use with Chanoine wickets on the United States improvement of the Great Kanawha and Ohio rivers, that accomplish the automatic disengagement
15 of the prop and the lowering of the wicket by a pull of the wicket upstream; but the objects of my improvement are mainly, first, to free the prop by a short defined movement of the wicket; second, to accomplish the purpose
20 with a low heurter. It is desirable for several important reasons to have the wicket, when down, lie as near as possible to the floor of the dam, and this in the usual construction is governed by the height of the heurter. My
25 improvement does not increase at all the minimum height of the plain Chanoine heurter. A third object is to secure simplicity in form and operation and freedom from liability to retain or become inoperative with sediment.

30 It will be noticed that the "guide," so called, is arranged in advance or in front of the seat S for the prop, and curves or inclines outward therefrom and forms a deflector, which as the prop is moved forward deflects the lower end
35 thereof laterally into the head of the descending channel. Now, it will be seen that an important advantage results from the arrangement of the deflector for engagement by the prop on the ascending movement of the latter, in that at such time there is no weight or
40 pressure exerted on said prop, and it is con-

sequently easily acted on by the deflector in the desired manner. Another advantage results from such construction, in that there being no pressure or force exerted on the
45 prop when the latter is being acted on by the deflector there is not such injury to and wear on the deflector as would likely result from the contact of such parts under heavy pressure. In the construction shown in Fig. 5 the
50 upper side of the guide or deflector is curved or inclined, as well as that side next the seat or bearing for the prop, both such inclined or curved surfaces being engaged by the prop.

What I claim, and desire to secure by Letters Patent, is—

1. An improved heurter having a seat or bearing for the lower end of the prop, and provided in advance of said seat with a guide or deflector arranged for engagement by the
60 prop as the latter is moved upstream or forward from its seat, substantially as set forth.

2. An improved heurter having a seat or bearing for the prop, and provided in advance of said seat with a guide or deflector curved
65 or inclined forward and laterally, such guide or deflector being arranged for engagement by the prop as the latter is moved upstream and forward from its seat, substantially as set forth.

3. An improved heurter having a seat or bearing for the lower end of the prop, and provided with a guide or deflector arranged for engagement by the prop as the latter is
70 moved upstream and forward from its seat, and having its upper side and its face next the seat or bearing curved or inclined, substantially as set forth.

ADDISON M. SCOTT.

Witnesses:

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PETER FONTAINE.