

(No Model.)

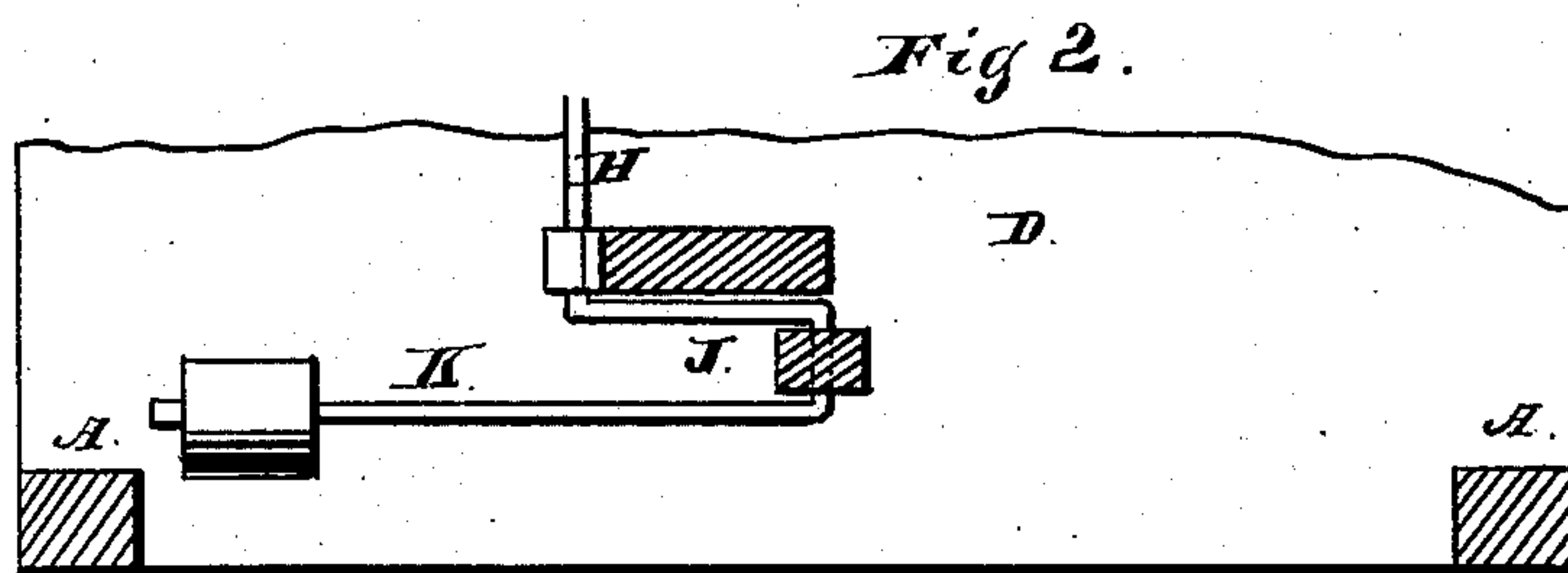
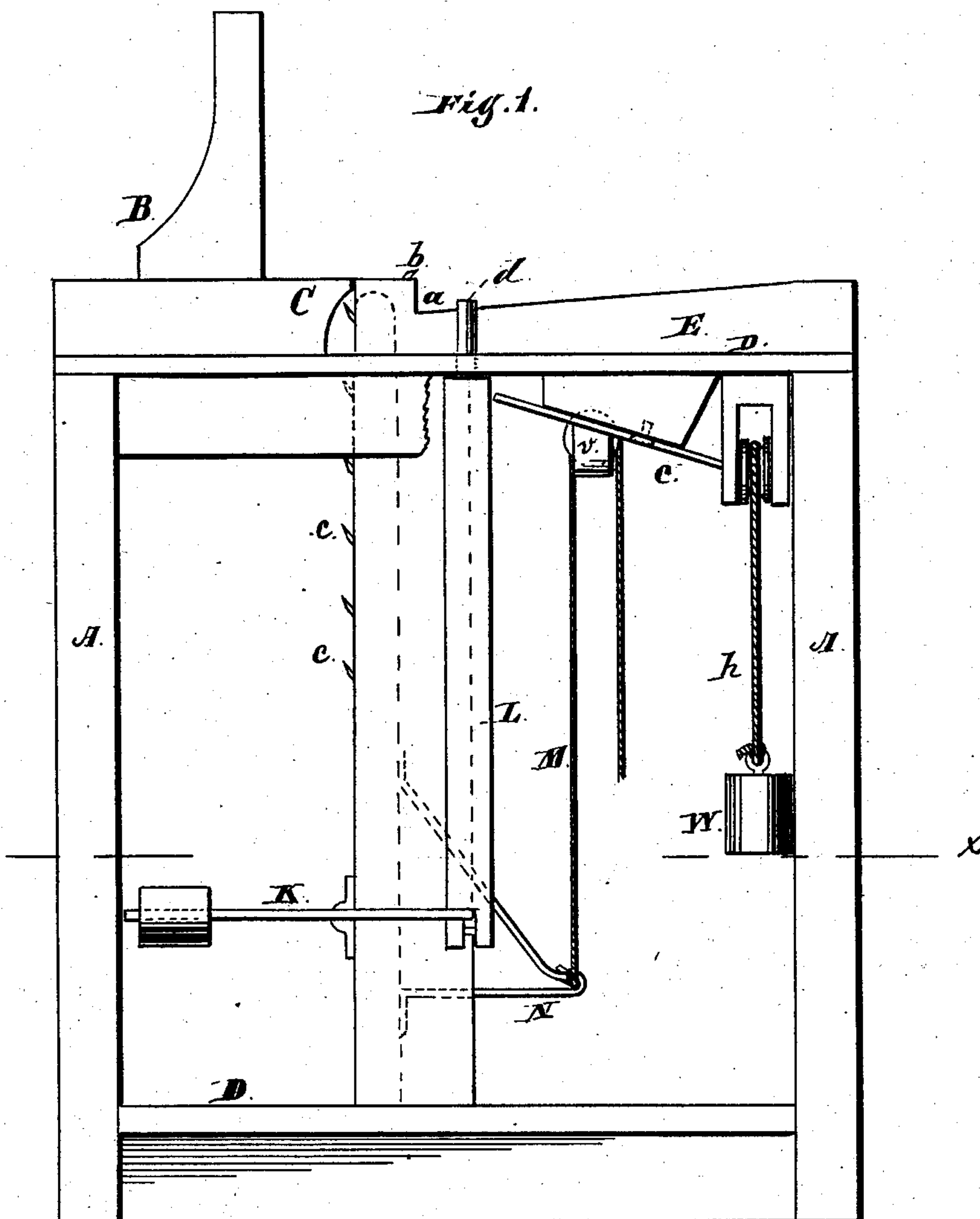
3 Sheets—Sheet 1.

F. McDONOUGH.

LOG TURNER.

No. 259,701.

Patented June 20, 1882.



Witnesses:

Albert H. Adams.

B. A. Price

Inventor:

Frank McDougall

By Test & Bond Atty.

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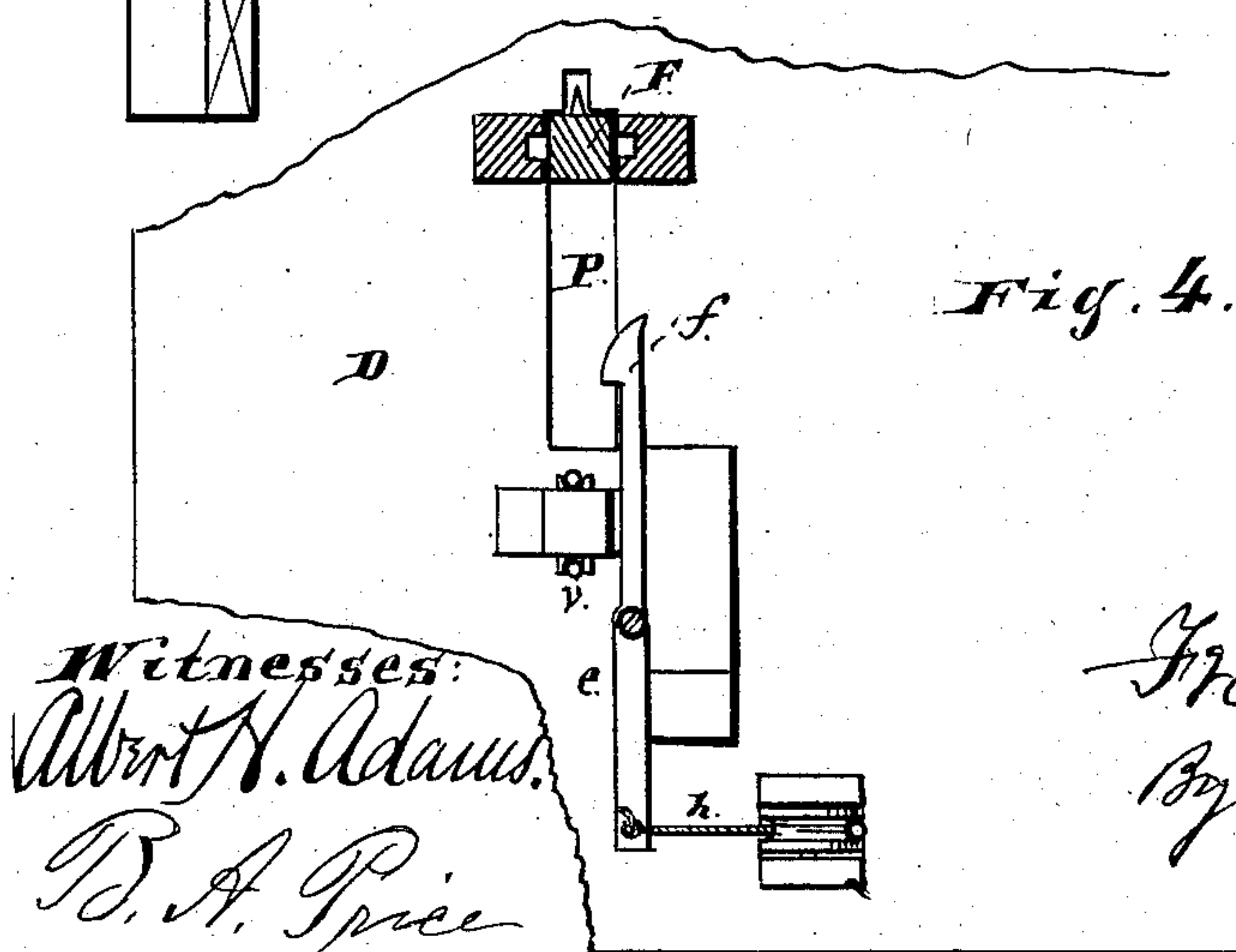
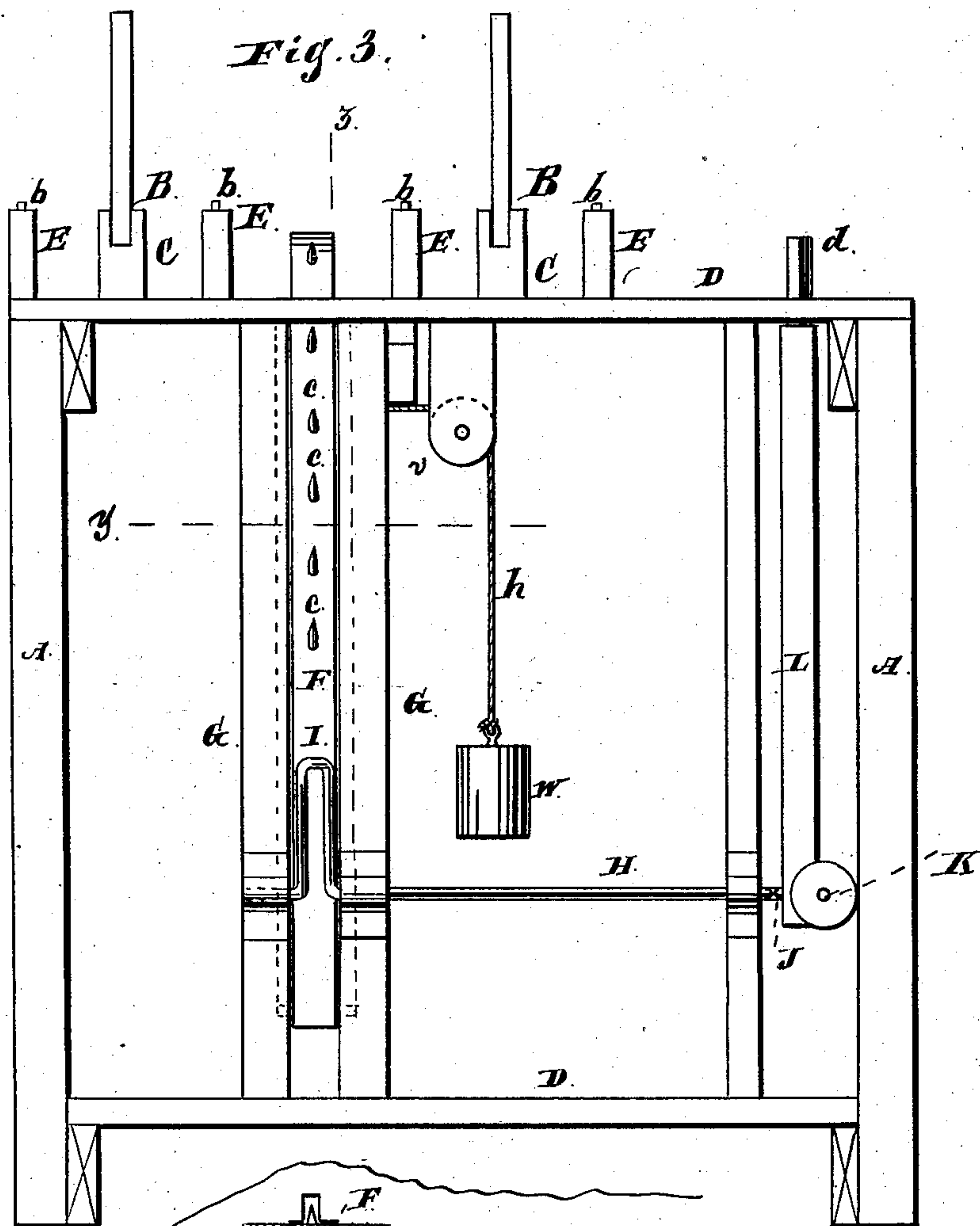
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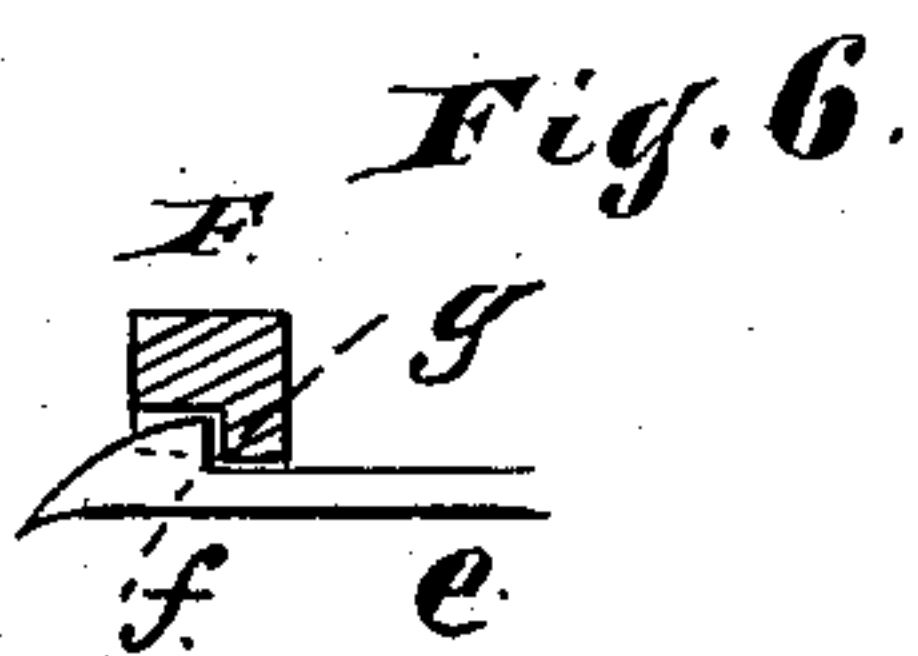
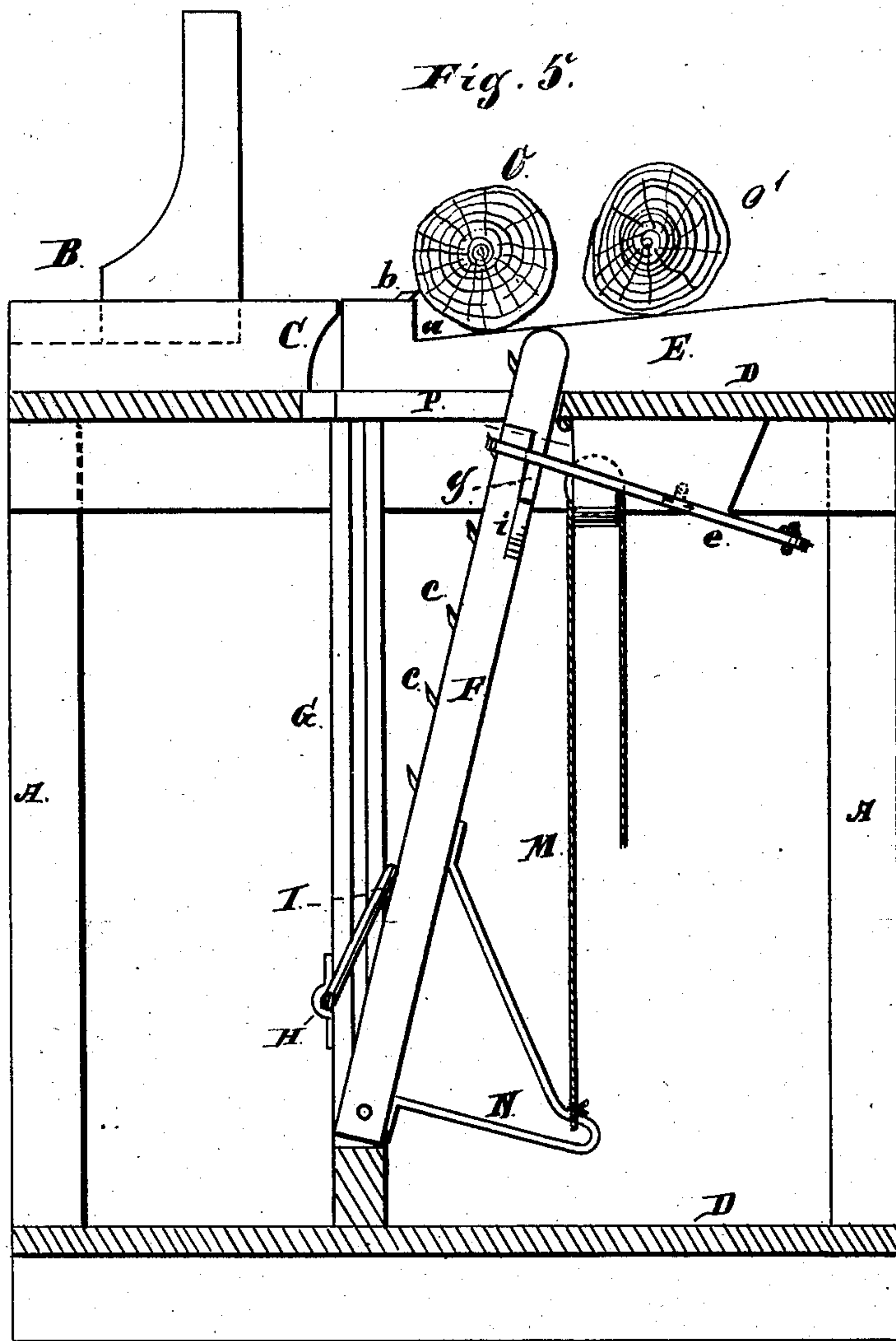
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UNITED STATES PATENT OFFICE.

FRANK McDONOUGH, OF EAU CLAIRE, WISCONSIN.

LOG-TURNER.

SPECIFICATION forming part of Letters Patent No. 259,701, dated June 20, 1882.

Application filed October 3, 1881. (No model.)

To all whom it may concern:

Be it known that I, FRANK McDONOUGH, residing at Eau Claire, in the county of Eau Claire and State of Wisconsin, and a citizen of the United States, have invented new and useful Improvements in Log-Turners, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 may be called an end elevation; Fig. 2, a horizontal section of the parts shown, taken at line *x* of Fig. 1. Fig. 3 may be called a front elevation; Fig. 4, a horizontal section of the parts shown, taken at line *y* of Fig. 3, looking upward; Fig. 5, a vertical cross section at line *z* of Fig. 3; Fig. 6, a detail.

I have only shown such parts as are necessary to illustrate my invention.

This invention relates to certain improvements in saw-mills, and has for its object to provide simple and efficient means for transferring the logs from the logways to the carriage. This object I accomplish by the mechanism illustrated in the accompanying drawings, and which I will now proceed to describe in detail.

In the drawings, A represents a part of the frame of the saw-mill.

B B represent the set-works, which are located upon a suitable carriage in the usual manner, C C being those parts upon which the logs are placed while being sawed. I have not shown the set-works in full, nor the carriage, which are supposed to be of any known suitable construction.

D represents the floor, upon which the carriage and logways are located.

E are the logways, which are inclined from their outer ends to a point near the carriage, at which point there is a shoulder, *a*. The inner ends of the inclines are a little below the level of the set-works on the carriage, as shown in Figs. 1 and 5.

b are spikes, one of which I place at the top of each shoulder *a*.

F is a log turner or canter. Its lower end is pivoted in grooves in posts G, in which grooves it has a vertical movement. Its upper end can also be thrown back, as shown in Fig. 5, and when down it rests upon its lower end.

c are teeth upon the log-turner F.

H is a rock-shaft supported in suitable bear-

ings, which, as shown, has in it two bends forming arms I and J, the former of which, I, extends upward immediately in front of the log-turner F, while the other, J, extends back at about a right angle with the shaft H.

K is a weighted rod or lever, connected with the arm J upon the shaft H. In manufacturing for use the shaft H may be made continuous, and be provided with two arms to take the place of the bends I and J.

L is a rod or bar, the lower end of which rests upon or is pivoted to the outer end of the arm J, the upper end, *d*, of which rod or bar projects, as shown, a little above the floor D.

M is a rope or chain, one end of which is connected to a suitable arm, N, connected with the log-turner F and extending back therefrom. This rope passes over a pulley, *v*, and the other end of this rope or chain M is connected with the power which operates the log-turner in the usual manner.

e is a bar pivoted at or near its center to some suitable support. Its forward end is provided with a catch, *f*, arranged to engage with a projection, *g*, upon the side of the log-turner F. A cord, *h*, is connected to the opposite end of the catch-bar *e*, and passes over a pulley, and has a weight, *w*, attached to its opposite end. As shown in the drawings, the projection *g*, upon the side of the log-turner, is formed by cutting away a part of the same, and at the lower end of this projection *g* the canter F is cut away, as shown at *i*, to allow the canter to be released from the catch.

O O' are logs upon the logway. P, Fig. 4, is an opening in the floor D, in which the log-turner moves.

The operation is as follows: Suppose that the log-turner and other parts are in the position shown in Fig. 1, and that there is a log, O, upon the inclined way, as shown in Fig. 5, ready to be transferred to the carriage. The operator, by placing his foot upon the top of the rod or bar L, can cause the rock-shaft H to turn somewhat in its bearings, throwing the log-turner F back into the position shown in Fig. 5 by the action of the upper end of the arm I upon the same; and when the rod or arm L is released it and the rock-shaft H will be returned to their former position, but the catch *f* will then be engaged with the projection *g* upon the side of the log-turner F. Now,

if the power used to operate the log-turner be applied to the rope or chain M, the log-turner will be raised a little and its upper end will pass up behind the log O. When the log-turner has been raised a little way it will be released from the catch *f*, and the teeth or spikes *c* will catch in the log, and, the log-turner continuing to rise, the log will be lifted up from the logways and will be turned over and thrown upon the carriage. While this operation is being performed the spikes *b* perform an important office—catching in the log, holding it, and preventing it from slipping while it is being raised. If these spikes or some similar device were not used, smooth and slippery logs could not be lifted up and thrown over onto the carriage by the action of the log-turner, but, coming in contact with the shoulders *a*, they would be turned partially over without being lifted. When the log has been transferred to the carriage the log-turner will be returned to its former position. The tendency of the power applied to operate the log-turner F is to throw its upper end forward. Hence, after it has been thrown back, as shown in Fig. 5, it is necessary to provide the catch *f*, or some other suitable means, to hold the upper end of the log-turner back and prevent it from being carried forward until it has first passed up behind the log.

I do not limit myself to the exact devices shown for operating the arm or crank and causing its free end to act and throw the log-turner back into the position shown in Fig. 5, nor to the precise form of catch or lock and means for operating the same automatically to hold the log turner or canter for a time in an inclined position, as other means, which will readily suggest themselves to a mechanic of ordinary skill, may be used. I am thus able with little expense to provide means by the use of which the log-turner in common use in all large mills can be adapted to transfer the logs from the logways to the carriage. By using inclined ways the logs thereon will roll down one after another to the shoulder *a*. If the inner ends of the inclines of the logways were on a level with the carriage, the shoulder *a* would project above the carriage, and when the log is lifted out of the notch in the logways it would be considerably above the carriage, and would roll down against the set-works with considerable force, sufficient in many cases to injure them. By arranging the inner ends of the inclined ways below the carriage I avoid this difficulty. If the log-turner were located so as to operate upon the log near either end thereof, it would still raise the log and throw it over onto the carriage with the aid of the spikes *d*, while without such spikes only one end of the log would be lifted, and would not be thrown over onto the carriage. After the log has been transferred from the ways to the set-works or carriage the log-turner can be returned to its original perpendicular position, as shown in

Fig. 1, in which it can be used for turning the log on the set-works, as has been heretofore done. My devices enable the log-turner to be used for transferring the log from the ways to the set-works or carriage, in addition to the work which it has heretofore performed.

I do not limit myself to the use of spikes *b*, formed as shown. Other forms may be used. Neither is it essential that they be located exactly as shown.

Other forms of locks or catches for engaging the log turner or canter than that shown can be used, and such locks or catches could be made automatic by means of springs or devices other than the weight shown. Other devices than the rock-shaft and means shown for operating the rock-shaft could be used for operating the arm or crank which throws the log turner or canter off from the perpendicular. A rope passing over pulleys and connected to the arm or crank in some suitable manner could be used for this purpose, and the form of the arm or crank can be varied somewhat from the form shown, so long as such arm or crank is arranged to have its free end brought into engagement with the turner or canter and throw the same off from the perpendicular.

Heretofore the log-canter has been provided with an incline, which, when the canter is raised by a rope, strikes against a horizontal arm or cam, which throws the canter out of the perpendicular, so that its upper end will, as the canter is still further raised, come back of and engage the log. The cam can be brought into a fixed position, when required, by a rope, and afterward swung down. In another instance the canter passes through a horizontal slide-bar that is connected by a link with an arm extending from a rock-shaft. By operating the rock-shaft the slide is moved and the log turner or canter moved beyond the center of the log.

What I claim as new, and desire to secure by Letters Patent, is as follows:

1. The log-turner F, arm or crank I, rock-shaft H, and arm or lever J, in combination with the rod or bar L for operating the arm or crank I and throwing the log-turner out of perpendicular, substantially as and for the purposes specified.

2. The log-turner F, arm or crank I, rock-shaft H, and arm or lever J, in combination with the weighted rod or bar L and weighted rod or lever K for bringing the arm or crank I into position to bear against the log-turner and return it to its normal position, substantially as and for the purposes specified.

3. The combination, with the carriage, logways, and the log turner or canter, pivoted at its lower end to swing out of perpendicular, and having a projection, *g*, at its upper portion, of a pivoted bar, *e*, having a catch, *f*, adapted to engage the projection on the log turner or canter when the latter is swung back, and to hold the same out of perpendicular for

a portion of its vertical movement, and to then automatically release the said log turner or canter, substantially as described.

4. A log turner or canter pivoted at its
5 lower end to be thrown out of perpendicular, and provided with a catch or projection, *g*, in combination with a lock or catch, *e f*, cord *h*, and weight *w*, in combination with the rope or chain M and arm N for raising the log turner
10 or canter, releasing it from the lock or catch, and throwing it forward, substantially as and for the purposes specified.

5. A log turner or canter pivoted at its lower end, and arm or crank arranged to have its free end bear against the turner or canter, 15 in combination with an automatic lock or catch, *e f*, rope or chain M, and arm N, substantially as and for the purposes specified.

FRANK McDONOUGH.

Witnesses:

A. R. BERGH,
C. BERGH.