(No Model.)

C. H. PRESBREY.

CHAIN PUMP.

No. 461,045. Patented Oct. 13, 1891.

Fig. 1

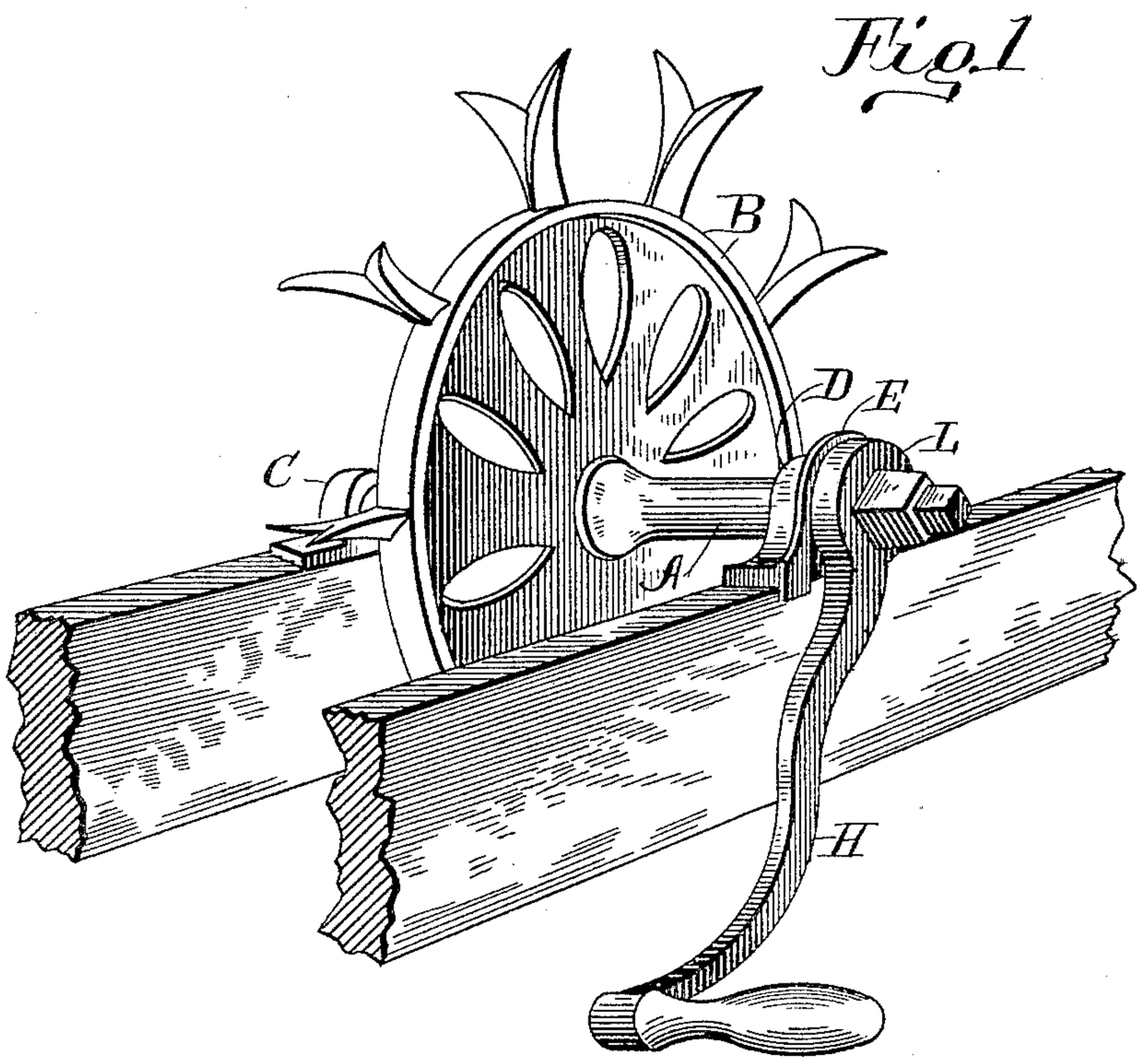
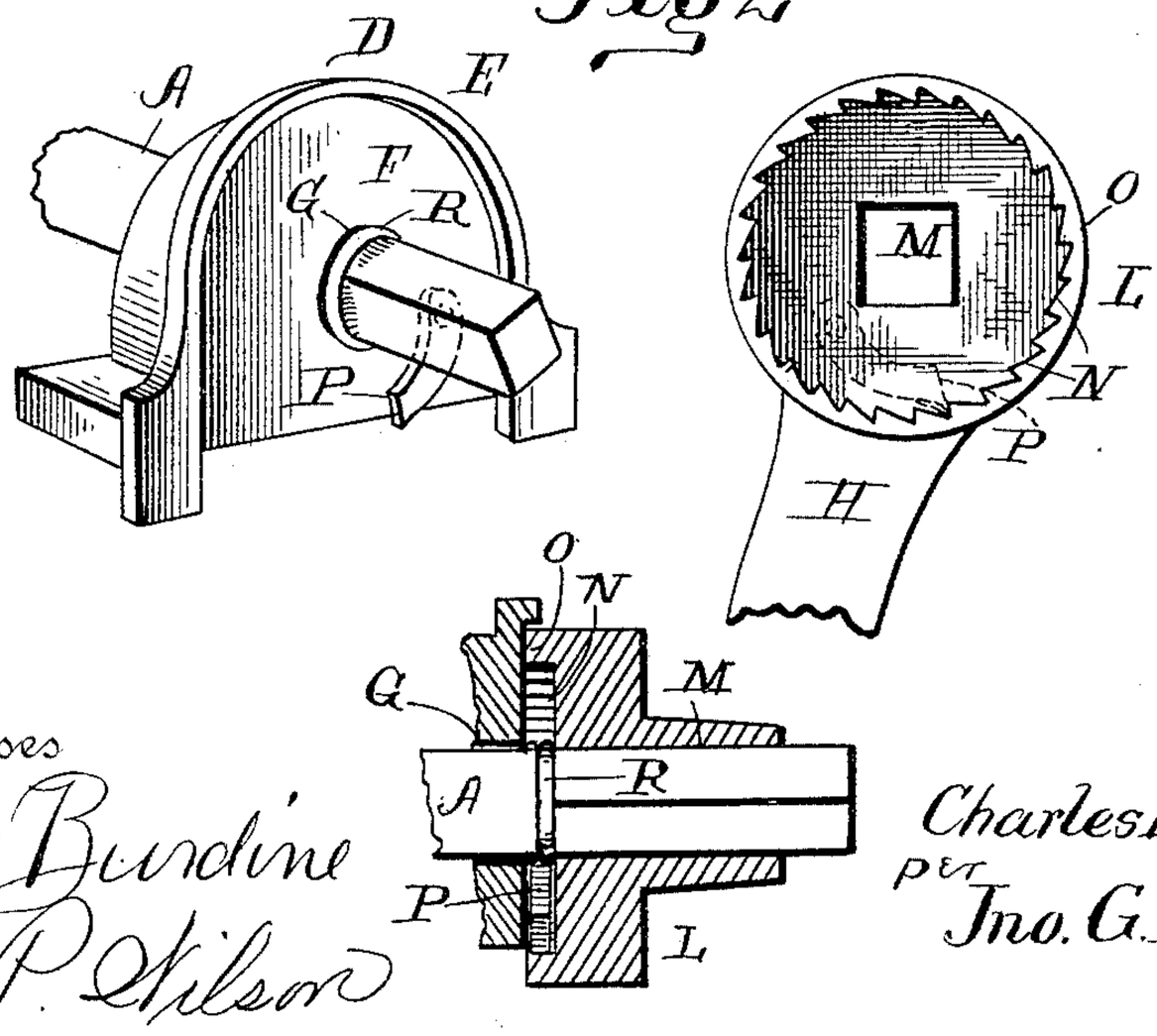


Fig 2



Witnesses
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H. P. Wilson

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per
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UNITED STATES PATENT OFFICE.

CHARLES H. PRESBREY, OF STERLING, ILLINOIS.

CHAIN-PUMP.

SPECIFICATION forming part of Letters Patent No. 461,045, dated October 13, 1891.

Application filed May 8, 1891. Serial No. 392,033. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. PRESBREY, a citizen of the United States, residing at Sterling, in the county of Whiteside and State of Illinois, have invented certain new and useful Improvements in Chain-Pumps; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention has reference to improvements in chain-pumps, and pertains more especially to devices for preventing the retrogression of the chain and its carrying-wheel and axle when the pumping is suspended and the usual crank is released.

It is well known that at the time of cessation of pumping the vertical tube through which the chain progresses in raising the water is filled with water, and the weight thereof being exerted upon but one side of the chain-carrying wheel upon the release of the crank the said wheel, if not otherwise held, will be rotated in a backward direction and be likely to cause the crank or crank-handle carried therewith to strike and injure the operator. This is particularly objectionable in the case of youths and children using the pump, and therefore in all pumps of this type there has been some provision to positively hold the chain-carrying wheel against backward rotation after the crank-wrist has been released by the operator.

As my invention is equally applicable to any of the well-known types of chain-pumps, whether the mode of elevating the water is by means of buckets attached to the chains or by means of metallic or other buttons distributed at intervals through the chain and traversing a closed tube, and the general construction of these and other types of chain-pumps are well known, I do not deem it essential to show or describe any more of the machine than is necessary to clearly exhibit the construction, location, and operation of my invention.

I attain the purposes of my invention by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective of the upper portion of a chain-pump embodying my invention. Fig. 2 is a detail of the wheel-axle with attached plate containing the retaining-pawl and of the end of the axle A projected through the same, and of the ratchet-box formed on the inner end of the crank.

Similar letters refer to similar parts throughout the several views.

A is the usual axle, which carries the rotating chain-actuating wheel B, the latter being provided peripherally with the usual chain-engaging clutches. The axle A is journaled at one end in the usual box C and at the other end in the box D, both of said boxes being attached in any suitable mode to the upper edge of the ordinary pump-box. On the outer surface of the box D and integral therewith there is formed the semi-elliptical cup-formed plate F, provided with the inwardly-projecting rim or edge E. In the plate F there is also formed transversely in prolongation of the shaft-bearing opening in the box D an opening G for the outward protrusion of the axle A.

H is the ordinary crank, on the inner end of which there is formed a metallic cap L, surrounding the usual angular opening M, adapted to be seated upon the end of the axle A. The cap L is of such size as to loosely pass within the rim or flange E of the metallic plate F. Around the inner surface of the inwardly-extending rim O of the cap L there is formed a series of ratchets N, and on the outer face of the plate F there is pivotally seated the pawl P, having its free end extended backward under the axle A in position to drop by its own gravity into the ratchets N of the cap L.

Shoulders R are formed at a suitable point on the axle A to afford a seat for the cap L, so that the adjacent surfaces of the plate F and cap L may not have a frictional contact.

In the operation of the pump the ratchets N pass successively under the free end of the pawl P, the latter dropping into said ratchets without engaging them, but the moment the crank H is released and the axle A, from the weight of the water, attempts a backward rotation the end of the pawl P engages a ratchet N and instantly and effectively precludes such retrorotation. By the

inner edges of the cap L projecting under the flange E of the plate F the pawl P and ratchets N are concealed and secured from disturbance; also, the projection of said pawl under the axle A and between the latter and the lower surface of the cap L renders it impossible for said pawl to be casually thrown out of an operative position.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

In a chain-pump, the combination of the axle A, suitably seated in boxes C and D, the plate F, provided with outwardly-projecting rim E and pawl P, and the cap L, having an inwardly-projecting rim O and provided with ratchets N, adapted to be engaged by the pawl P in the initiate retromovement of the axle A, substantially as shown, and for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES H. PRESBREY.

Witnesses:

JOHN G. MANAHAN,

ADDA E. WARD.