H. Davies.

Cleaning Piles.

NO. 103,305. Patented May 24. 1870.

Fig. 1.

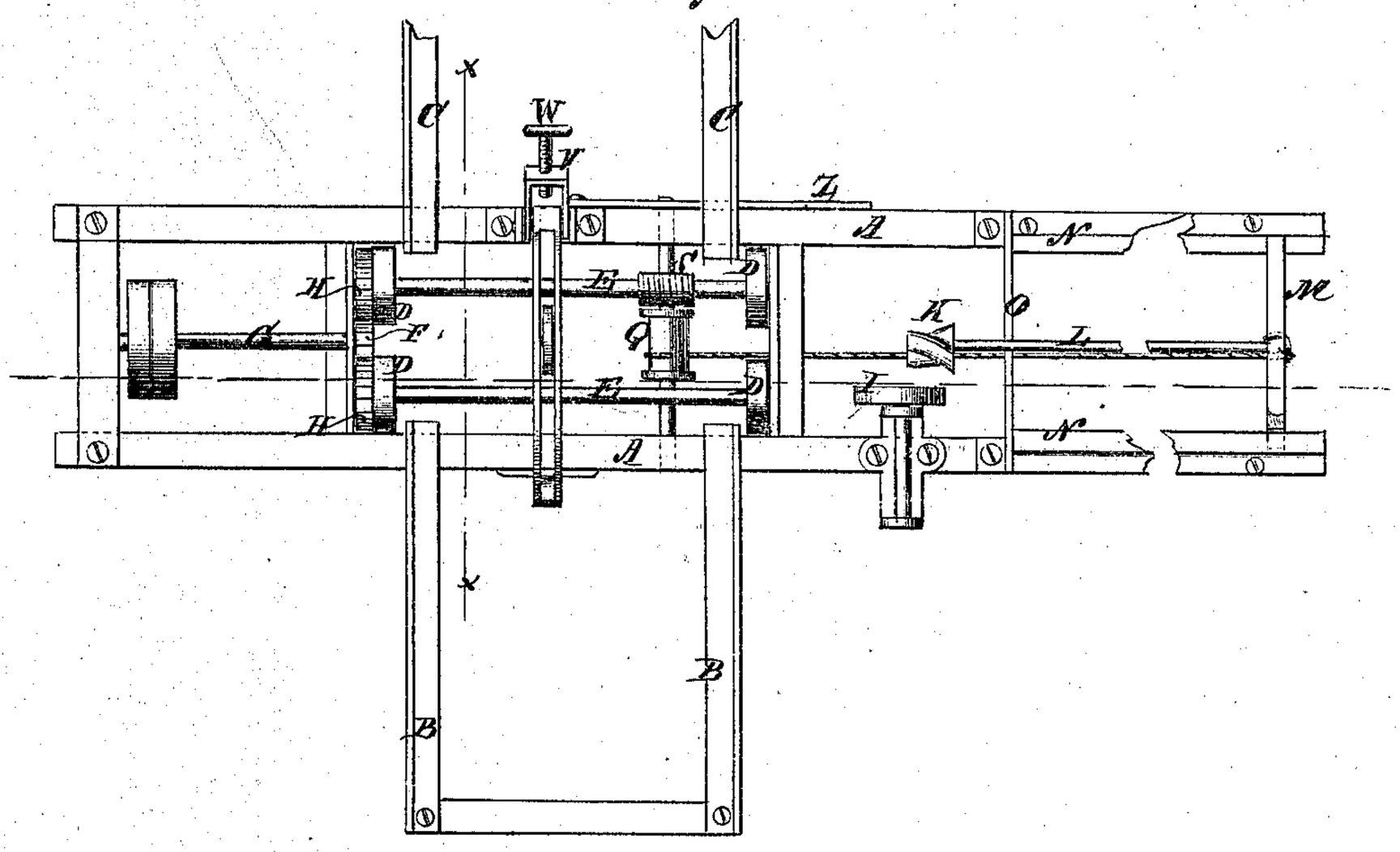


Fig. 2

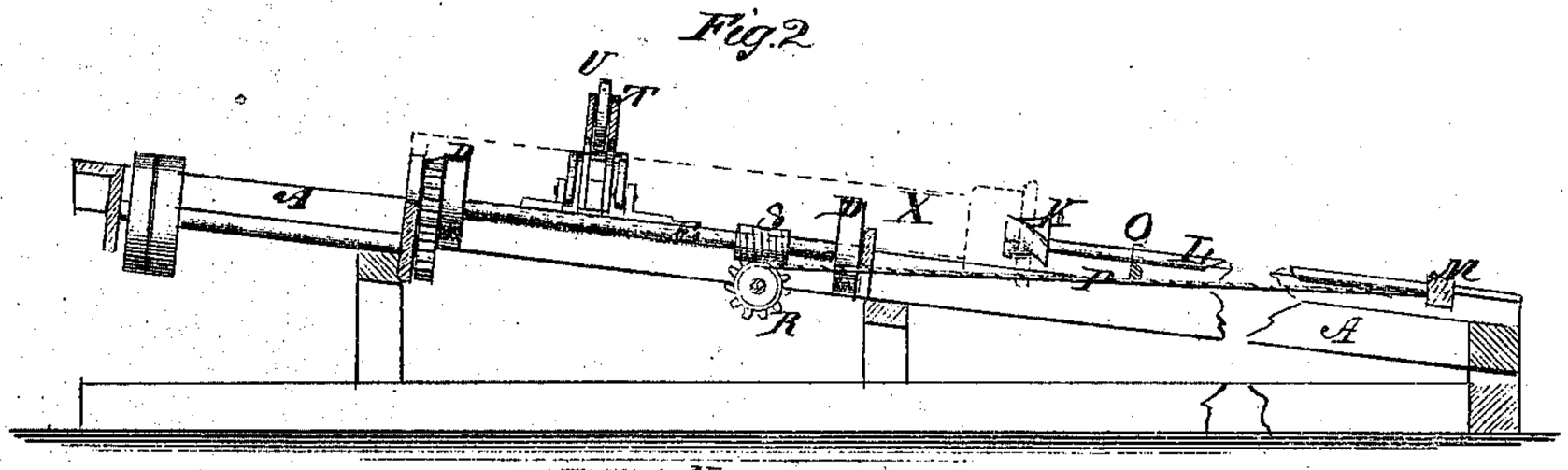
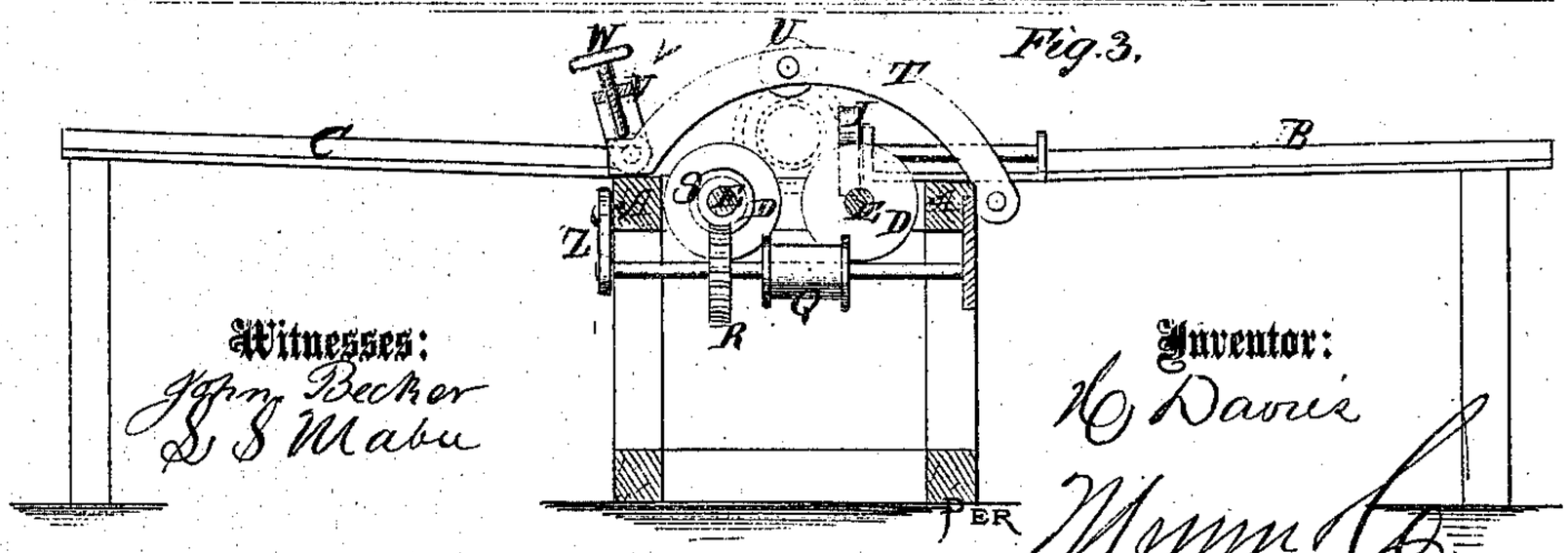


Fig. 3.



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UNITED STATES PATENT OFFICE.

HENRY DAVIES, OF NEWPORT, KENTUCKY.

IMPROVEMENT IN MACHINES FOR CLEANING CAST PIPES.

Specification forming part of Letters Patent No. **103,305**, dated May 24, 1870.

To all whom it may concern:

Be it known that I, HENRY DAVIES, of Newport, in the county of Campbell and State of Kentucky, have invented a new and useful Improvement in Machines for Cleaning Pipes; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to improvements in machinery for cleaning the core-sand out of the pipe after casting.

It consists in a combination, on an inclined frame, of a set of pipe holding and rotating rollers and a sliding, boring, or scraping tool, and suitable operating gears and apparatus for revolving the pipe and drawing the boring or scraping tool into it for scraping off the same, which is discharged by the revolving of the pipe, all as hereinafter more fully specified.

Figure 1 is a plan view of my improved machine. Fig. 2 is a longitudinal sectional elevation, and Fig. 3 is a transverse section taken on the line *x x*, Fig. 1.

A is a long inclined frame, of wood or metal, with lateral frames or rails B C, for rolling the pipe on and off the place for cleaning.

D represents two pairs of rollers attached to shafts E, arranged side by side within the frame A, parallel with it and opposite the intersection of the rails B C with the said frame. The shafts of these rollers are set in motion by a pinion, F, on a driving-shaft, G, and gearing with suitable cog-wheels, H, on the said shafts. The said pairs of rollers are placed at a suitable distance from each other to support the pipes to be cleaned and to cause them to revolve by their frictional contact with the surface of the pipes.

I is a roller placed at right angles to the roller D, at some distance below the rollers, for action upon the end of the pipes to prevent them from moving lengthwise down the incline.

K is the boring or scraping tool, which may be of any sort or kind suited for the purpose. It is attached to the end of a rod, L, connected at the other end, so as not to revolve, to a slide, M, arranged to work in ways N up and down on the frame A. At the upper ends of the ways N is a curved bar, O, with a guiding-notch for the rod L. This slide N and the boring-tool are moved upward to cause the tool to enter the pipe to be cleaned when lying on the roller D, as shown in dotted lines at X, and being revolved by them by the cord P and drum Q, the latter being turned by worm-gears R S and one of the shafts E.

T is a clamping-bar pointed at one side of the frame and arranged to swing down on the pipe to confine it in place, and has a friction-roller, U, for bearing on it. The free end is held in position by a swinging clamp, V, and set-screw W. The said clamp swings up over the end of the bar after it has been dropped on the pipe, and the set-screw W screws down upon it. The shaft of the drum Q is journaled at one end in a hand-lever, Z, by which it is thrown into or out of gear when required. It is thrown out as soon as the boring-tool reaches the upper end. The tool and its slide are then forced back by hand or otherwise, to allow the removal of the pipe by rolling it off on one of the tracks B or C.

By this improved machine I am enabled to clean the pipe very rapidly and with but little labor, as will be readily seen, in a way to avoid breaking them, as is now often done by hammering them to detach the sand.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, in a pipe-cleaning machine, of a set of pipe holding and revolving rollers and a sliding, boring, or scraping tool, substantially as specified.

2. The combination, with the pipe holding and revolving rollers and the sliding boring-tool, of a roller arranged for action on the end of the pipe, substantially as specified.

3. The combination, with the pipe holding and revolving rollers, of the clamp-bar T, friction roller and clamp V, and set-screw, substantially as specified.

HENRY DAVIES.

Witnesses:

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