J. HOSKIN.
Tube-Rolling Machine.

No. 168,495. Patented Oct. 5, 1875.

FIG. 1.

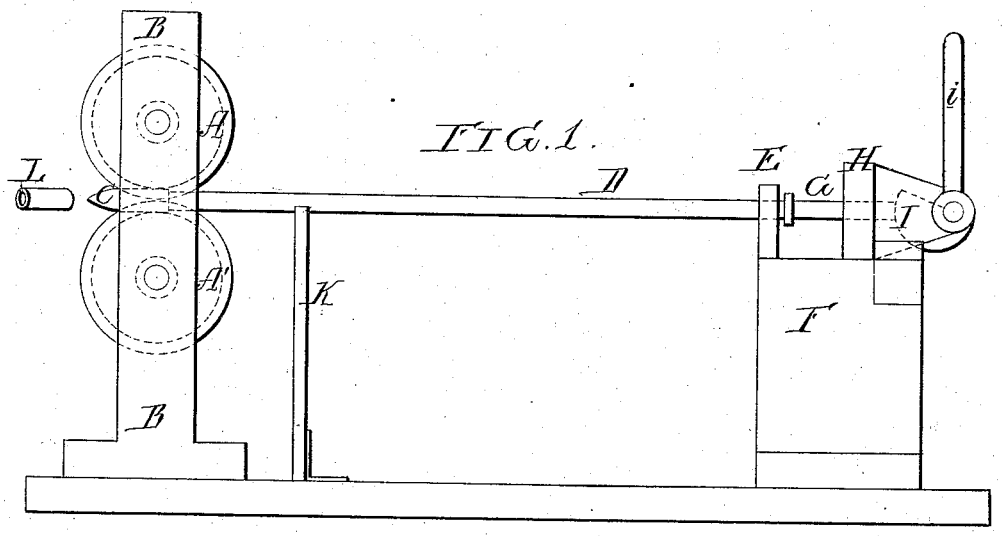


FIG. 2.

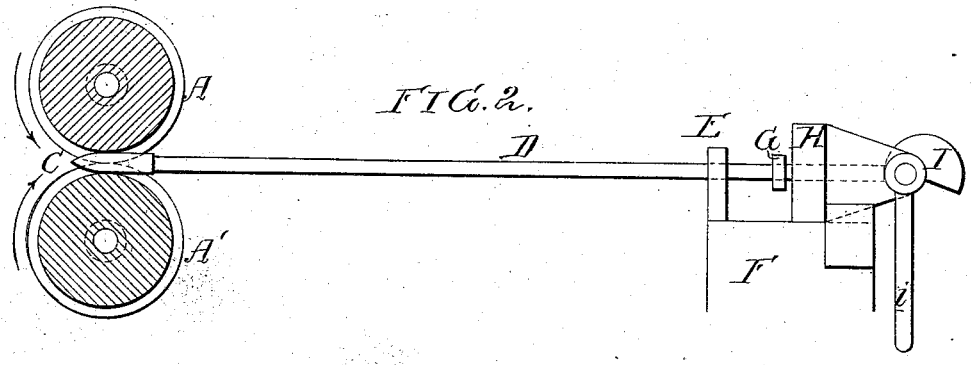
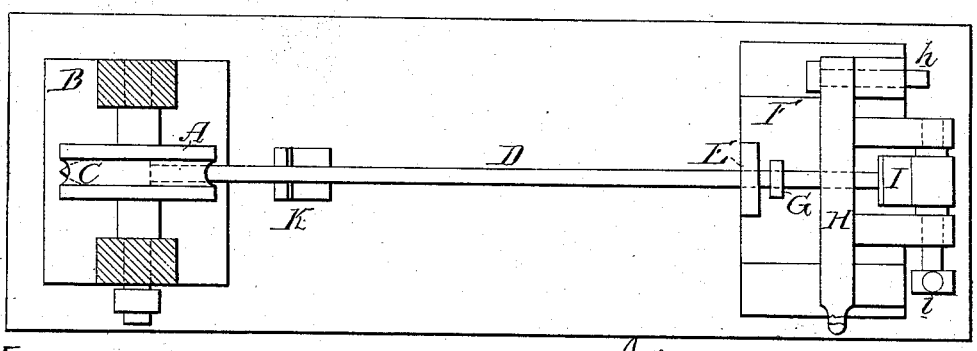


FIG. 3.



Witnesses,
Harry Smith
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by his Attorneys,
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UNITED STATES PATENT OFFICE.

JOHN HOSKIN, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN TUBE-ROLLING MACHINES.

Specification forming part of Letters Patent No. **168,495**, dated October 5, 1875; application filed July 16, 1875.

To all whom it may concern:

Be it known that I, JOHN HOSKIN, of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Tube-Rolling Machines, of which the following is a specification:

My invention relates to that class of tube rolling or finishing mills in which the bent skelp or tube is welded or formed by passing it between suitable rolls and over a mandrel. In ordinary machines of this class the mandrel is held stationary, and it has been found in practice that a mandrel thus held becomes cut and abraded, and too small to perform its duty properly, except in making shorter lengths of tubes than is desirable for commercial purposes.

The object of my invention is to obviate this evil by the movement of the mandrel to a limited extent within the tube during the rolling of the same, so that new unworn portions of the mandrel may be submitted to the action of the rolls, and take the place of the worn and cut portions. By this improvement I am enabled to make longer and better tubes than heretofore, because the working portions of the mandrel are being constantly renewed.

In the accompanying drawing, Figure 1 is a side view of sufficient of a tube-rolling or tube-finishing machine to illustrate my invention; Fig. 2, a side view, partly in section; and Fig. 3, a plan view.

A and A′ are tube-welding rolls of the usual construction; B, the frame in which the rolls are caused to revolve in the direction of the arrows. C is the mandrel, made somewhat longer than usual, and adapted to the end of the shank D, the outer end of which passes through and is laterally guided by a projection, E, on the block F, the latter being firmly secured to a suitable foundation. G is a headed pin passing freely through and guided by a transverse hole in the arm H, which is hinged by a pin, *h*, to a lug on the block F. I is an eccentric lever, the fulcrum-pin of which is carried by projections on the arm H, the said lever having a cam-like edge for controlling the longitudinal position of the pin G, and, consequently, that of the shank D and mandrel C, the said shank being supported near the rolls by a hinged prop, K. L represents part of a tube in position to pass onto the mandrel and between the rolls A A′.

Prior to the rolling of a tube the eccentric lever should be moved to the position shown in Fig. 1, so as to push the mandrel as far forward as possible between the rolls, the length of the headed pin G and that of the mandrel-shank C being such that when the eccentric lever is in this position the rear end of the mandrel shall be between the rolls in the position shown in said figure. When the tube commences to pass between the rolls the eccentric lever should be gradually moved in the direction of the arrow, thereby permitting the rolls to move the mandrel and shank rearward to an extent and at a speed commensurate with the movement of the said eccentric lever.

Preferably the limited movement of the mandrel inside the tube, and of the tube itself, should be commenced and completed in the same period of time. It will be seen that the motion thus given to the mandrel will constantly carry its new and unworn parts into action between the rolls, and, consequently, the evil effects of a mandrel abraded by remaining stationary during the rolling of the tube will be obviated.

It will be evident that the gradual presentation of new unabraded portions of the mandrel to the action of the rolls may be accomplished by moving the mandrel forward during the rolling of the tube instead of rearward, and that different devices may be used for imparting the desired movement to the mandrel within the tube. I therefore do not restrict myself to the mechanism shown for this purpose, nor to the character of the movement of the mandrel, providing its unworn surface is presented to the action of the rolls as the tube passes between them; but, therefore,

I claim as my invention—

The combination, in a tube-rolling machine, of the mandrel C with mechanism whereby motion is imparted to the said mandrel within the tube during the pushing of the latter over the mandrel by the rolls, as set forth.

JOHN HOSKIN.

Witnesses:
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