J. S. WORTH.

Mechanism for Operating the Adjusting-Screws of Rolls

No. 161,465. Patented March 30, 1875.

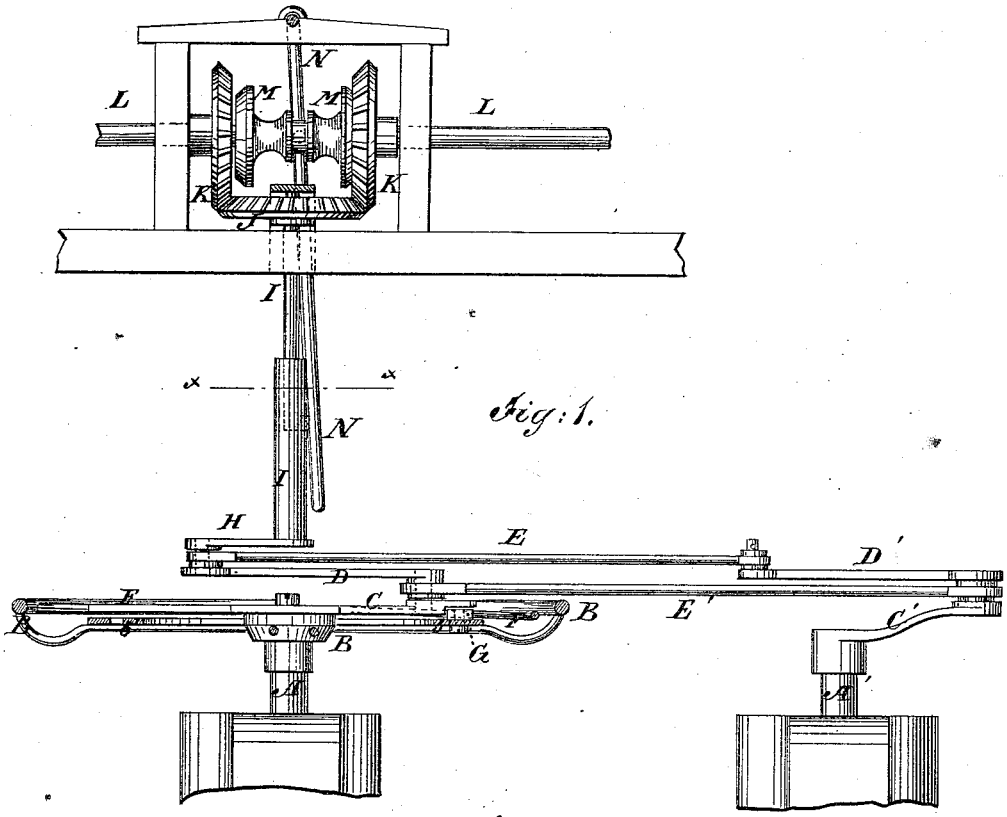


Fig: 1.

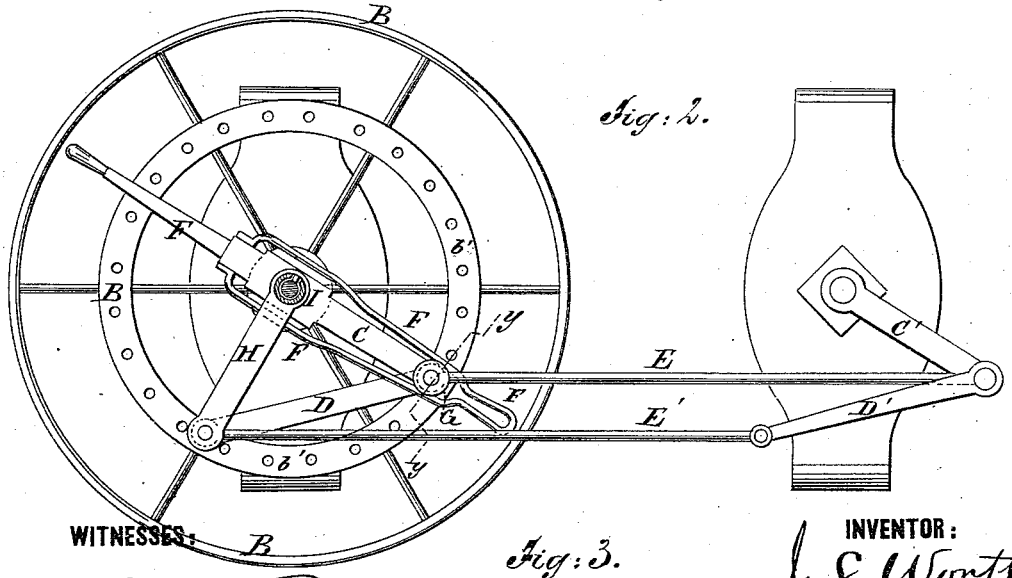
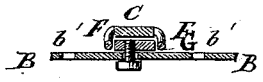


Fig: 2.

Fig: 3.



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JOHN SHARPLESS WORTH, OF COATESVILLE, PENNSYLVANIA.

IMPROVEMENT IN MECHANISMS FOR OPERATING THE ADJUSTING-SCREWS OF ROLLS.

Specification forming part of Letters Patent No. **161,465**, dated March 30, 1875; application filed February 20, 1875.

To all whom it may concern:

Be it known that I, JOHN S. WORTH, of Coatesville, in the county of Chester and State of Pennsylvania, have invented a new and useful Improvement in Adjustable Parallelogram Rolling-Mill Spanner, of which the following is a specification:

Figure 1 is a side view of my improved spanner, the hand-wheel being shown in section. Fig. 2 is a top view of the same, partly in horizontal section through the line *x x*, Fig. 1. Fig. 3 is a detail section taken through the line *y y*, Fig. 2.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish an improved spanner, simple in construction, inexpensive in manufacture, effective in operation, conveniently operated, readily reversed, easily attached and detached, and adjusted to work both screws at a time or either singly.

The invention will first be fully described, and then pointed out in the claims.

A A′ represent the screws of the roll to be adjusted. To the head of the screw A is attached the hub of a hand-wheel, B, to the hub of which is pivoted the end of a crank, C, a similar crank, C′, being attached to the head of the screw A′. To the ends of the cranks C C′ are fastened the ends of two connecting-bars, D D′. To the ends of the two connecting-bars D D′ are pivoted the ends of two connecting-bars, E E′, which may be made in two parts connected by a swivel-nut, so that the length of the said rods may be adjusted according to the distance apart of the screws A A′. By this construction the cranks C C′ will always be kept parallel with each other. To the inner end of the crank C is attached a latch, F, the ends of which project nearly to the outer or hand rim of the hand-wheel B. One arm of the latch F is slotted longitudinally to receive the crank C, the outer part of said slot being so formed as to fit snugly upon the opposite sides of the outer end of the said crank C. The lower side of the outer end of the crank C is rabbeted to receive a catch-block, G, which is bolted to the inner rim *b′* of the hand-wheel B, a circle of holes being formed in said rim at a little distance from each other to receive the said bolt, so that the said catch-block G may be shifted to allow the screw A to be adjusted as may be required. By this construction, when the latch F is upon the catch-block G the two screws A A′ will be turned together, and by disconnecting the said latch F from the said catch-block G either of the screws may be turned alone. To the outer end of the connecting-bar D is pivoted the end of a connecting-bar or return-crank, H, the inner end of which is directly over the axis of the screw A, hand-wheel B, and crank C, and is rigidly attached to the lower end of a shaft, I, which is made in two parts connected with each other by a socket rigidly attached to one of said parts and connected with the other part by a tongue and groove, so that the said shaft may lengthen or shorten as the screws A A′ move in and out. To the upper end of the shaft I is attached a bevel-gear wheel, J, into the teeth of which, and upon its opposite sides, mesh the teeth of two bevel-gear wheels, K. The bevel-gear wheels K run loosely upon the shaft L, which revolves in bearings attached to the frame of the building or some other suitable support, and to which motion may be given from any convenient power. Upon the shaft L, between the gear-wheels K, is placed a double friction-clutch, M, which is connected with said shaft by a tongue and groove, so that it may be carried around by and with the shaft L in its revolution, but may be slid longitudinally upon said shaft to clutch one or the other of the gear-wheels K, according to the direction in which it is desired to turn the screws A A′. The friction-clutch M is shifted by a lever, N, which projects down into such a position that it may be conveniently reached and operated by the attendant to revolve the screws in either direction, or to allow said screws to stand still.

The spanner may be operated by hand, if desired, by means of the hand-wheel B.

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

1. The combination of the hand-wheels B *b′*, the catch-block G, and the latch F with the cranks or wrenches C C′, and the two pairs of connecting-rods D D′ and E E′, substantially as herein shown and described, to

enable either of two screws to be turned separately, or both at the same time, as set forth.

2. The combination of the return-crank H, the extendible shaft I, the gear-wheels J K K, shaft L, and the double clutch M, and its shifting-lever N with the two cranks or wrenches C C′ and the two pairs of connecting-rods D D′ and E E′, substantially as herein shown and described.

JOHN SHARPLESS WORTH.

Witnesses:
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