2 Sheets--Sheet 1.

L. TOWNSEND.

Leather-Boarding and Graining-Machines.

No. 126,105. Patented April 23, 1872.

Fig. 1

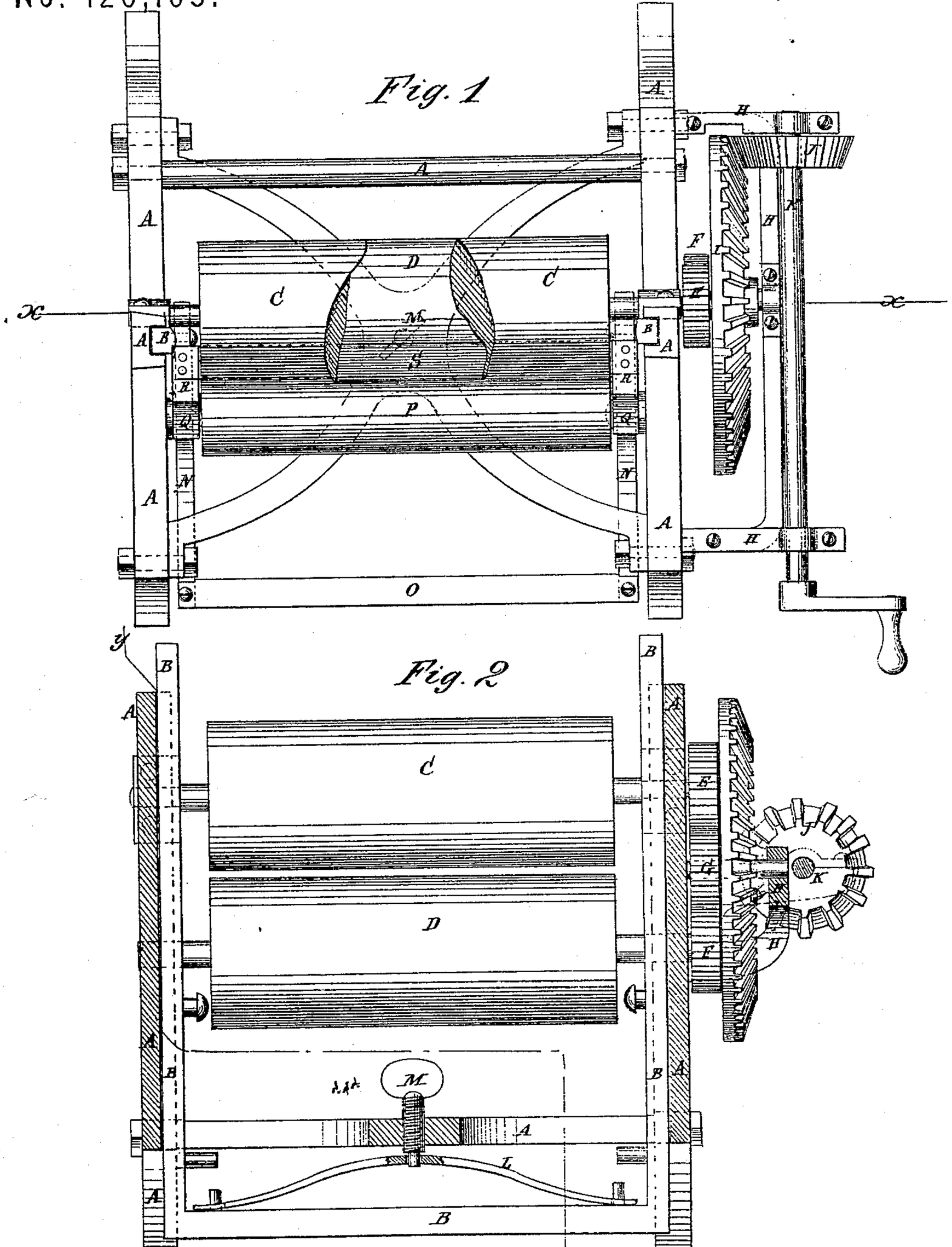

Fig. 2

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2 Sheets--Sheet 2.

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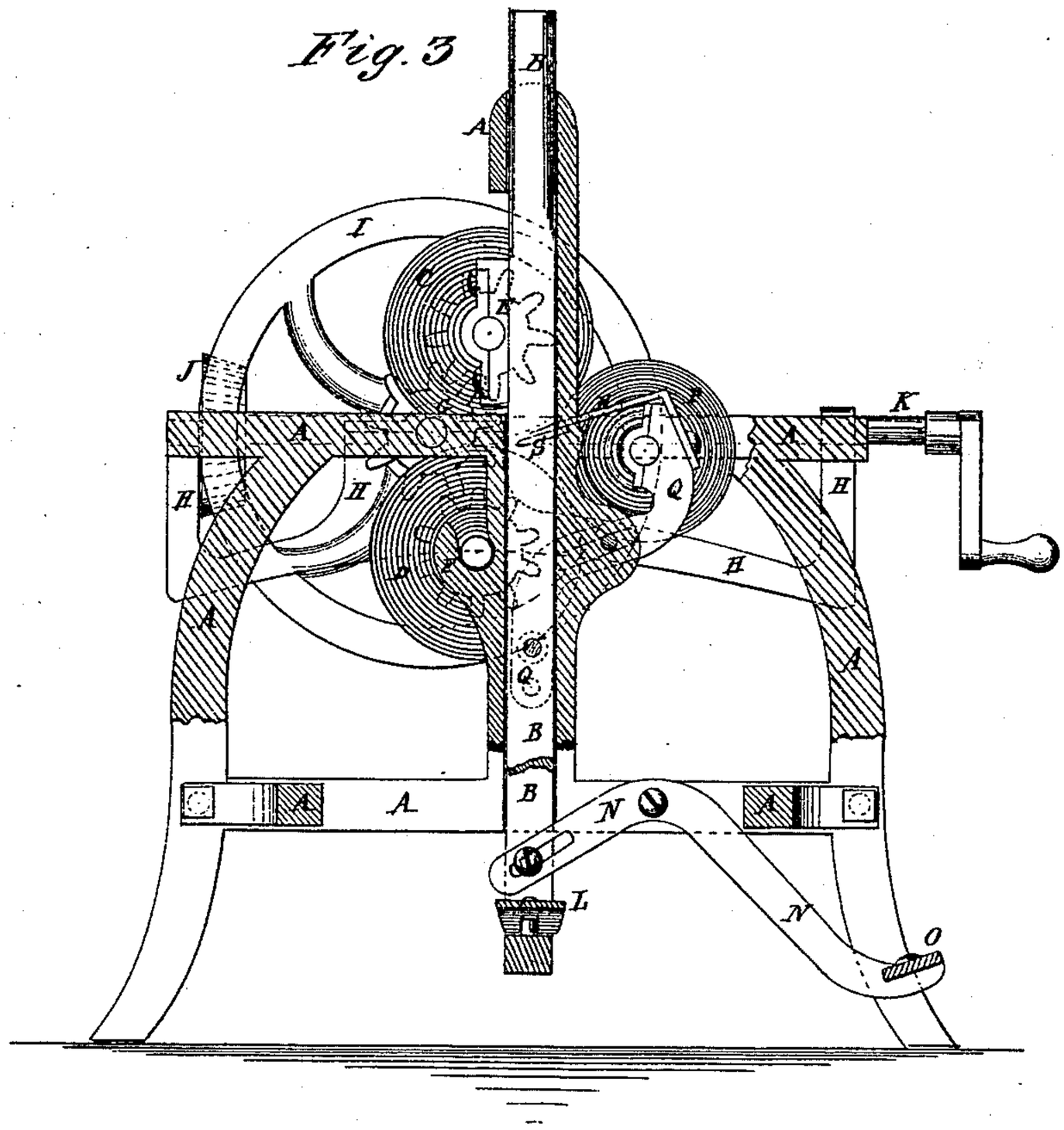
Fig. 3



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126,105

UNITED STATES PATENT OFFICE.

LOUIS TOWNSEND, OF TERRE HAUTE, INDIANA.

IMPROVEMENT IN LEATHER BOARDING AND GRAINING MACHINES.

Specification forming part of Letters Patent No. 126,105, dated April 23, 1872.

Specification describing a new and Improved Leather Boarding and Graining Machine, invented by LOUIS TOWNSEND, of Terre Haute, in the county of Vigo and State of Indiana.

Figure 1, Sheet 1, is a top view of my improved machine, part of the upper roller being broken away to show the construction. Fig. 2, Sheet 1, is a detail vertical section of the same, taken through the line *x x*, Fig. 1. Fig. 3, Sheet 2, is a detail sectional view of the same, taken through the line *y y*, Fig. 1.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish an improved machine for boarding and graining leather which shall be simple in construction, convenient in use, and effective in operation, doing its work quicker and better than it can be done by hand, and with substantially the effect of hand-boarding upon the leather; and it consists in the construction and combination of the various parts of the machine, as hereinafter more fully described.

A is the frame of the machine, the central end posts of which are grooved or channeled longitudinally upon their inner sides to receive the bars or frame B, which slide up and down in said grooves, and to the upper parts of which are attached the bearings in which the journals of the upper boarding and graining roller C revolve. D is the lower boarding and graining roller, the journals of which revolve in stationary bearings formed upon or attached to the frame A. The rollers C D should be covered with fine emery to enable them to take hold of the leather to be operated upon. To the projecting journals of the rollers C D, at one side of the machine, are attached gear-wheels E F, the teeth of which mesh into the teeth of the intermediate gear-wheel G, the journals of which revolve in bearings in the frame A, and in a bracket, H, attached to said frame A. To the journal of the intermediate gear-wheel G is attached a large bevel-gear wheel, I, which serves as a fly-wheel, and the teeth of which mesh into the teeth of a small bevel-gear wheel, J, attached to the shaft K, and which revolves in brackets attached to the frame A, and to which motion is given from any convenient power by a crank or pulley in the ordinary manner. By this construction the upper roller C can be raised for the convenient insertion of the leather without disarranging the gearing. The frame B is held down to hold the upper roller C down upon the lower roller D by the spring L, which rests upon the bottom bar of said frame B and passes against the lower cross-bars of the frame A. The tension of the spring L is regulated by a set-screw, M, which passes through the said cross-bars of the frame A and bears against the said spring L. N are levers, the outer ends of which are connected by a cross-bar, O, which serves as a foot-lever or treadle for operating said levers. The inner ends of the levers N are pivoted to the lower parts of the bars or frame B by bolts, screws, or pins, which pass through slots or elongated holes in the said levers and into the said bars or frame. The levers N are pivoted to the frame A by bolts, screws, or pins, which pass through holes in the said levers and into the said frame. P is a roller made somewhat smaller than the rollers C D, so as to enter the space between the forward sides of the said rollers C D and hold the leather firmly against them. The journals of the roller P revolve in bearings in the outer ends of the levers Q, which are pivoted to the frame A by bolts, screws, or pins, which pass through short slots in the levers Q and into the said bars or frame. By this construction, as the frame B and upper roller C are raised, the levers Q are operated to throw back the roller P to allow the leather to be conveniently introduced. To the upper ends of the levers Q are attached upwardly-projecting spring-arms, R, to the inner ends of which are attached the ends of the blade or plate S, which passes into the space between the rollers C D to hold the leather folded while being acted upon by the said rollers C D.

In using the machine the outer ends of the levers N are pressed down, which raises the frame B and upper roller C, and operates the lever Q, to throw back the roller P and blade S. The leather is then passed between the rollers C D and the blade S, and as the levers N are released the spring L forces the frame B and roller C down, which operates the levers Q to throw the blade S and roller P forward, the blade S folding or doubling the leather,

and the roller P holding it firmly against the rollers C D. If, now, the machine is started the rollers D P will draw the leather inward and the rollers C P will draw it outward, while the blade S will keep it doubled or folded and pressed in between the rollers C D, the fold of the leather constantly changing its place, and the same effect being produced as is produced by hand-boarding and graining, and doing it quicker and better.

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

1. The combination of the rollers C D, sliding-frame B, roller P, and blade S with each other and with the frame A and the driving-gearing, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the levers Q and spring-arms R with the sliding frame B and with the roller P and blade S, to enable said roller and blade to be operated by the movements of said frame, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the levers N and adjustable spring L with the frame A and sliding frame B, substantially as herein shown and described, and for the purpose set forth.

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