

S. D. TRIPP.

Machinery for Beating out the Soles of Boots and Shoes.

No. 164,235.

Patented June 8, 1875.

Fig. 1

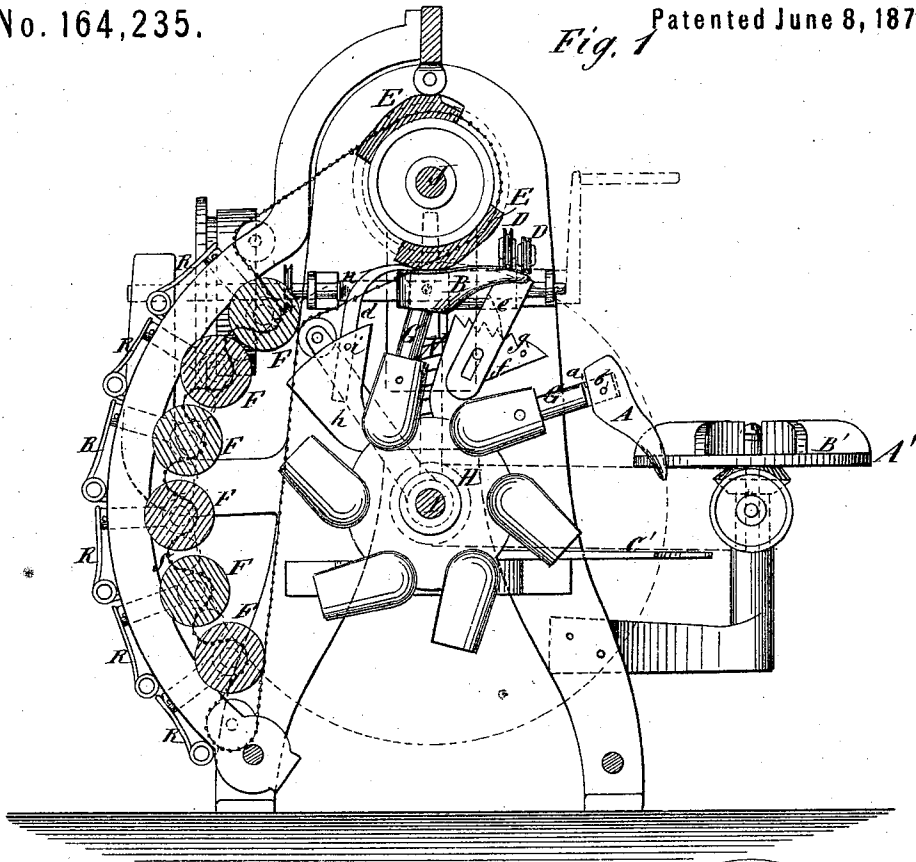
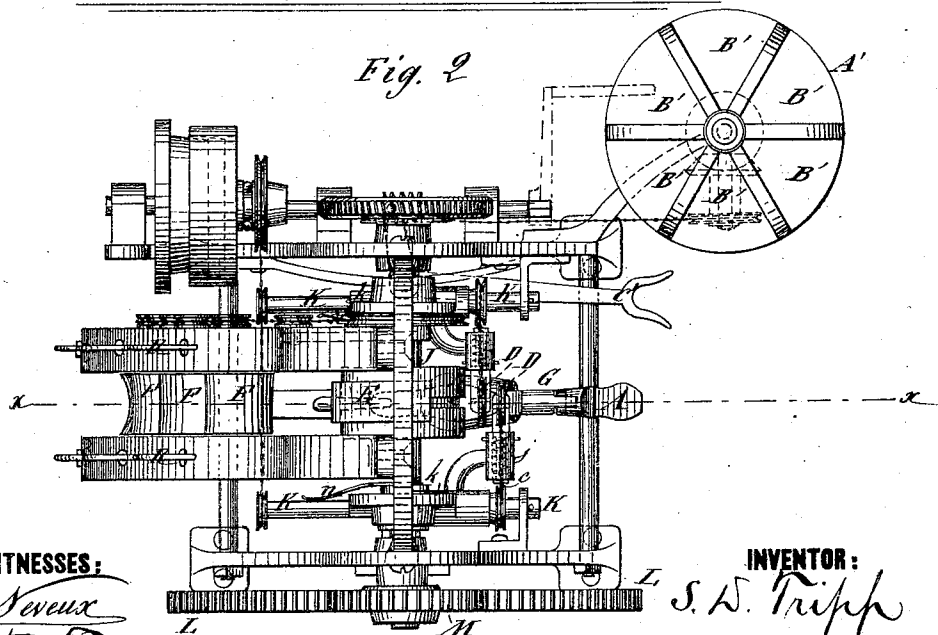


Fig. 2



WITNESSES:

C. Neveu  
A. F. Terry

INVENTOR:

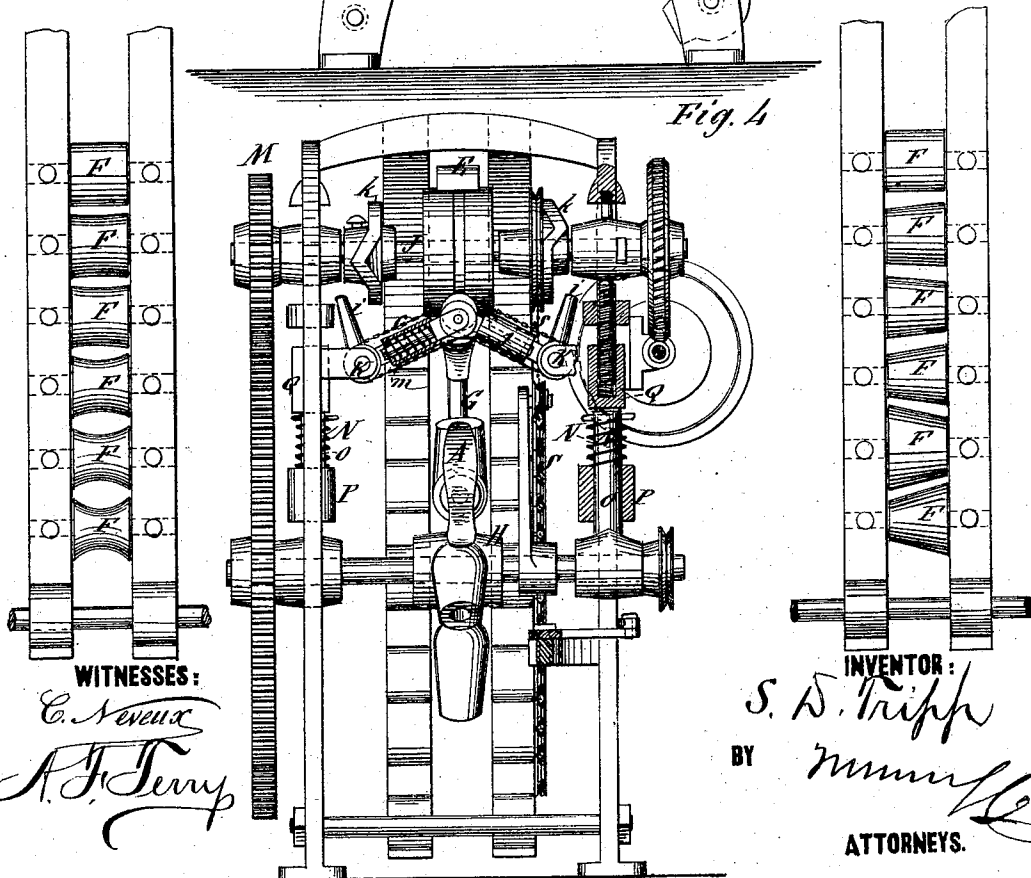
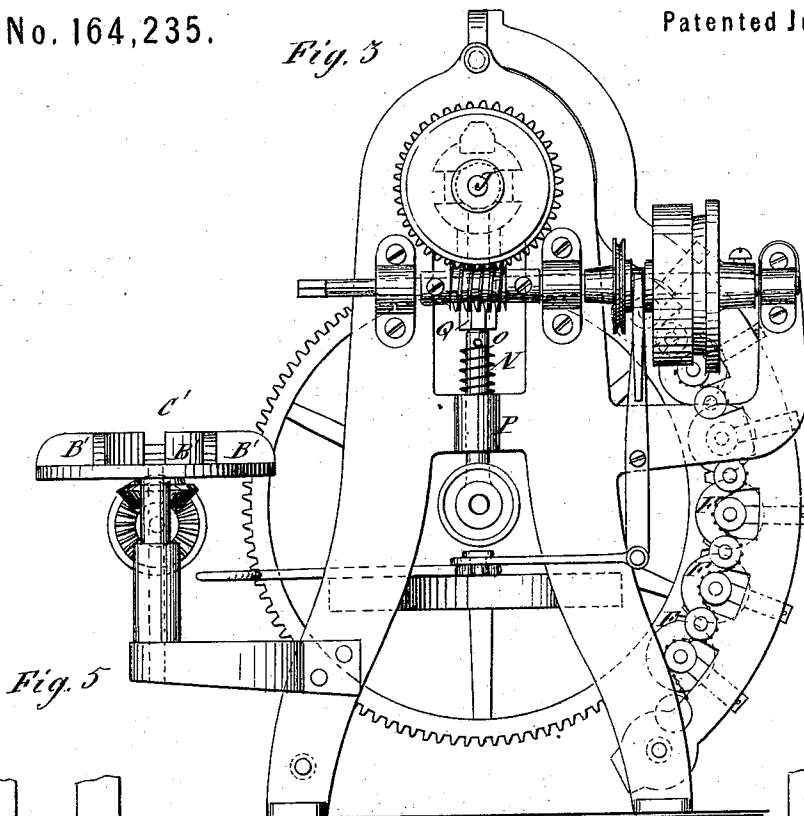
S. D. Tripp  
BY  
ATTORNEYS.

**S. D. TRIPP**

## Machinery for Beating out the Soles of Boots and Shoes.

No. 164,235.

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**WITNESSES:**

C. Neville  
A. F. Terry

**INVENTOR:**

S. D. Tripp  
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# UNITED STATES PATENT OFFICE.

SETH D. TRIPP, OF LYNN, MASSACHUSETTS.

## IMPROVEMENT IN MACHINERY FOR BEATING OUT THE SOLES OF BOOTS AND SHOES.

Specification forming part of Letters Patent No. **164,235**, dated June 8, 1875; application filed May 8, 1875.

*To all whom it may concern:*

Be it known that I, SETH D. TRIPP, of Lynn, in the county of Essex and State of Massachusetts, have invented a new and Improved Machine for Leveling and Beating Out the Soles of Boots and Shoes, of which the following is a specification:

My invention consists of the contrivance, in a machine of apparatus for subjecting the soles to the combined action of rubbing mechanism, a pressing-former and pressing-rollers for smoothing down the channels made for receiving the fastening, and also for smoothing and shaping the soles to the shape of the last, the machine being contrived with a series of lasts for holding the shoes, which are slowly revolved upon a wheel to be presented successively to the different smoothing devices, and so that the attendant may take the finished boot or shoe off the last and put on one to be finished while the last is passing, or if needful he may stop the machine while changing the shoes in case it is geared for quick motion. The machine is thus adapted for performing the work much more expeditiously than it can be done by the machines used up to this time, having only one last and one smoothing apparatus. The invention also comprises several features of detail in the construction, which will be fully described in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 is a sectional elevation of the machine taken on the line *xx* of Fig. 2. Fig. 2 is a plan view. Fig. 3 is a side elevation. Fig. 4 is a front elevation. Fig. 5 is an elevation of pressing rolls of concave form, and Fig. 6 is an elevation of conical rolls, which may be used instead of the others.

Similar letters of reference indicate corresponding parts.

A and B represent lasts on which the boots and shoes are to be held, to have the soles smoothed and shaped by the rubbing belts or chains C, pressing-formers E, and pressing-rolls F. The lasts are mounted on arms G of a disk or hub, H, revolving in a vertical plane on the shaft I, there being preferably six arms to carry six lasts, and with these are two formers, E, on another revolving hub, J, the shaft of which is geared with the shaft of hub

H, by wheels L M, having teeth in the same proportion numerically as the formers to the lasts, so that each alternate former will meet each alternate last. In leveling right and left shoes one former and its lasts will be for rights and the other former and its lasts for lefts. One set of formers will answer for a number of sizes, as the lasts will yield to accommodate their varying form. The shaft I, whereon the lasts are mounted, is suspended by springs N, rods O, and the supports P, which regulate the pressure, the lasts being depressed a little by the formers and raised again by the springs after the formers relieve the lasts. The adjusting-nuts Q are employed to vary the pressure as may be required, and to adjust the shafts with reference to their distance apart. The pressure-rolls F are held up to their work by springs R. These rolls are arranged circumferentially to the lasts suitably to act on them as they turn around, and they vary in respect of the shape of their operative faces in regular gradation from the cylindrical form of the upper one to the concave form of the lower one, Fig. 5, or the conical form, Fig. 6, to insure the proper effect on all parts of the convex soles. The periphery of these rolls may be driven a little faster than the sole moves under them, which will cause a rubbing or slipping motion, having a smoothing and polishing, as well as a compressing, effect. These rolls may be driven by a cord or chain, S, as shown, or by a train of gears. In connecting the lasts A, which are made of iron to the arms, I have the tenon *a*, which enters the last, fit closely against the head of the slot to prevent the last from vibrating on the pin *b*, with the end not quite touching the bottom of the slot, so that the pressure comes on the pin. This pin is fixed so as to be readily taken out and put in to allow of exchanging the lasts without having to handle any other part, thus avoiding the handling of more weight than the last. To attach a wood last for leveling a pegged shoe on the last on which it is pegged, I use a hook, *d*, to hold the last down on the arm G, and in the notch of a support, *e*, for the toe, the said support being pivoted on the sides of the seat *f*, having a curved and notched face, *z*, along which the support may be shifted

readily for long or short shoes. The hook *d* is held in a socket of the rest *h* by a set-screw, *i*, so that it can be put in and taken out readily. The idle rollers *D*, over which the channel laying-chains *C* run, are mounted in the outer end of an arm, *j*, of a shaft, *K*, which is turned by a cam, *k*, and arm *l* to raise the chains up to allow the shoes to pass under them, and the arm is contrived in two parts and provided with a tension-spring, *m*, to push out one part for maintaining the requisite tension on the chains. These chains bear on the soles by their weight, to which is added the influence of the friction of the shaft *K*, in the arm *j*, which is mounted on it; also the friction of a spring, *n*, which is attached to the hub of the arm and bears on the shaft. *A'* represents a revolving table at the right side of the operator's place to be used for a tender to the machine; it is separated into as many sections *B'* as there are lasts in the machine to receive from an assistant to the operator the shoes corresponding to the several lasts, and save the operator the necessity of selecting the shoes. The table is geared with the machine to be turned synchronously with the lasts. The pressing-rollers may be used or not, as may be preferred or required by the nature of the work, some kinds of which may be sufficiently smoothed and shaped by the rubbing chains and the formers. *C'* is a shipper-lever with a forked end, arranged so that the operator may work it with his knee while attending to the machine, to stop and start it at will.

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

1. In a machine for smoothing the soles of boots and shoes, the combination of a rotary last-support, chain-rubbing mechanism, and pressing-formers, all substantially as and for the purpose described.

2. In a machine for smoothing and shaping the soles of boots and shoes, the combination, with a rotary last-support, a chain-rubbing mechanism, and pressing-formers, of pressing-rollers, substantially as and for the purpose set forth.

3. The combination of the rubbing-chain mechanism with a series of revolving lasts, substantially as specified.

4. The combination of the revolving pressing-formers with a series of revolving lasts, substantially as specified.

5. The combination of pressing-rollers with a series of revolving lasts, substantially as specified.

6. The combination of rubbing-chain *C*, arm *j*, rock-shaft *K*, arm *l*, and cam *k*, as and for the purpose specified.

7. The combination described of arm *j*, pulley *D*, and spring *m*, with shaft *K*, and chain *C*, as and for the purpose specified.

8. The described combination of last-support *G*, with rest *e*, and the detachable hook *d*, for securing the last rigidly in the manner and for the purpose specified.

9. The combination of the revolving table *A'* with a series of revolving lasts and smoothing and shaping mechanism, substantially as specified.

SETH D. TRIPP.

Witnesses:

C. A. GOODWIN,  
J. W. GOODWIN.