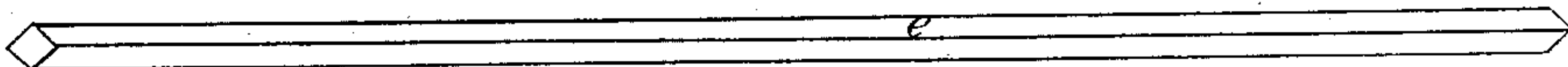


# *F Murray, Making Plow Irons.*

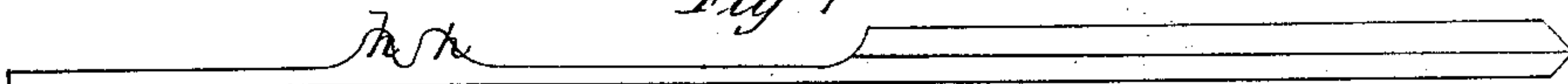
*N<sup>o</sup> 64,131.*

*Patented Apr. 23, 1867.*

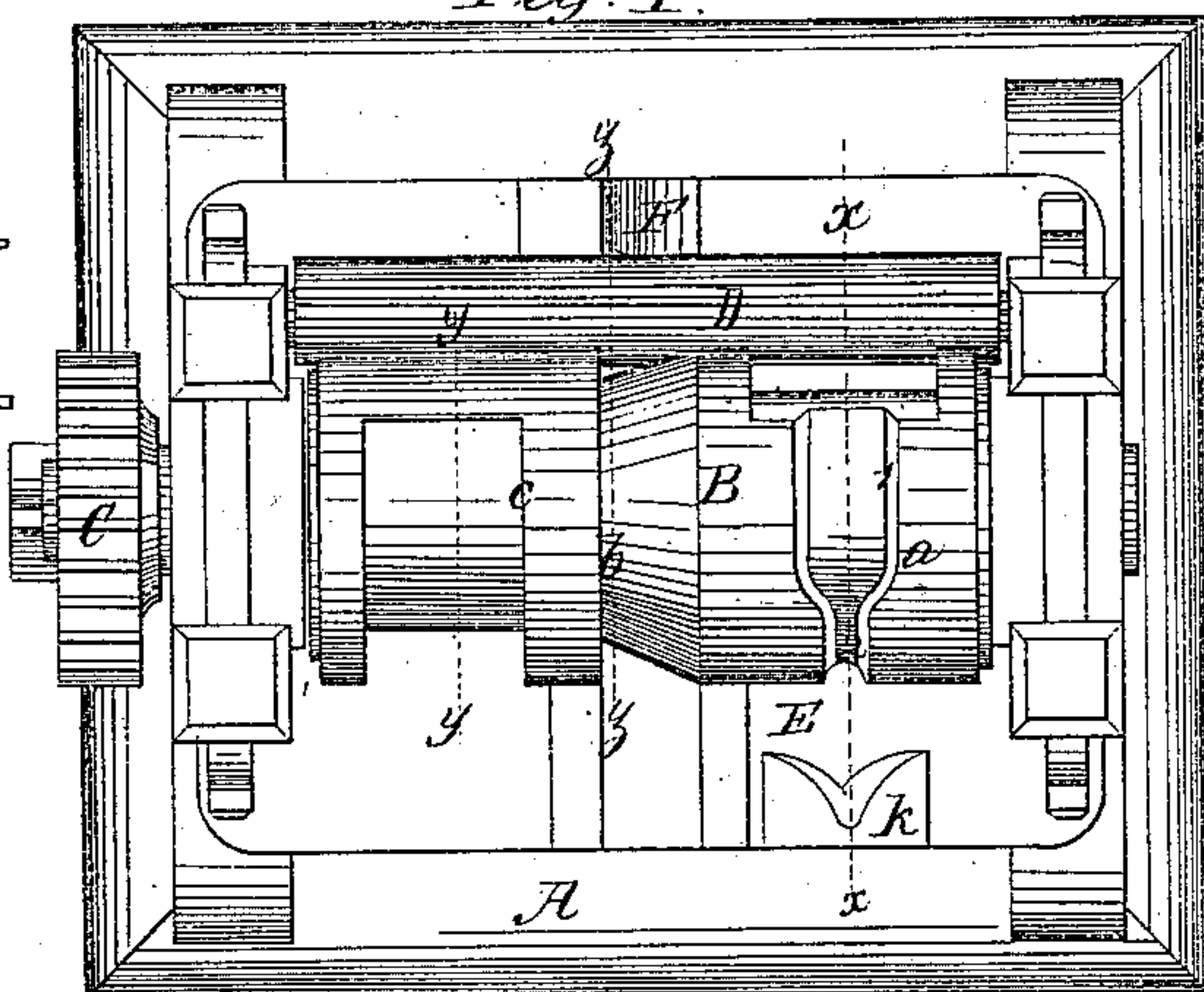
*Fig: 6.*



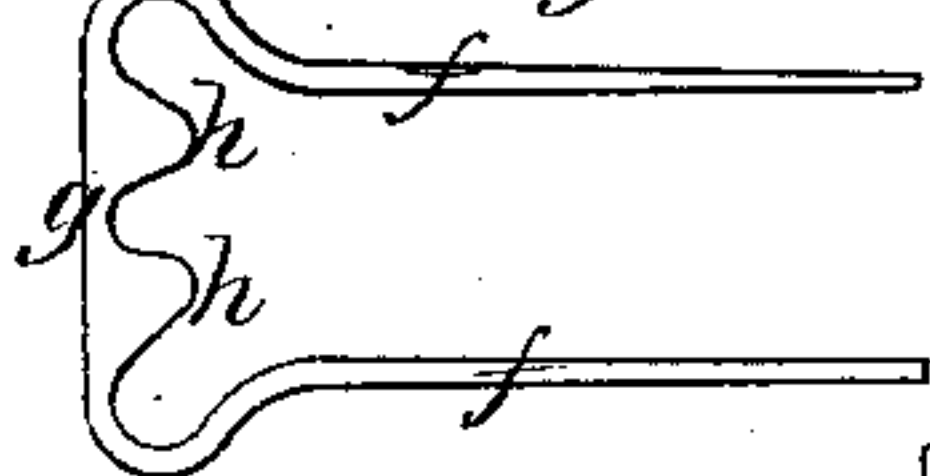
*Fig: 7.*



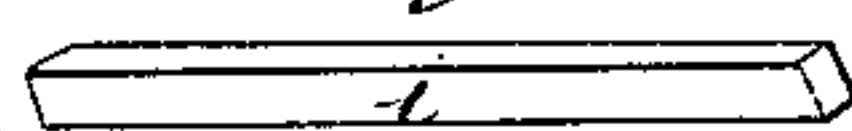
*Fig: 1.*



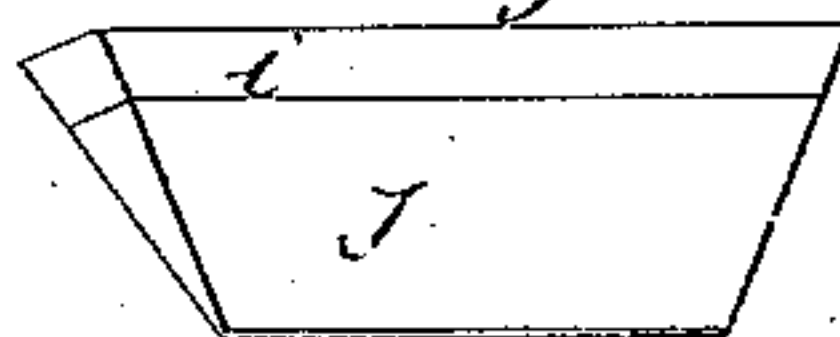
*Fig: 8.*



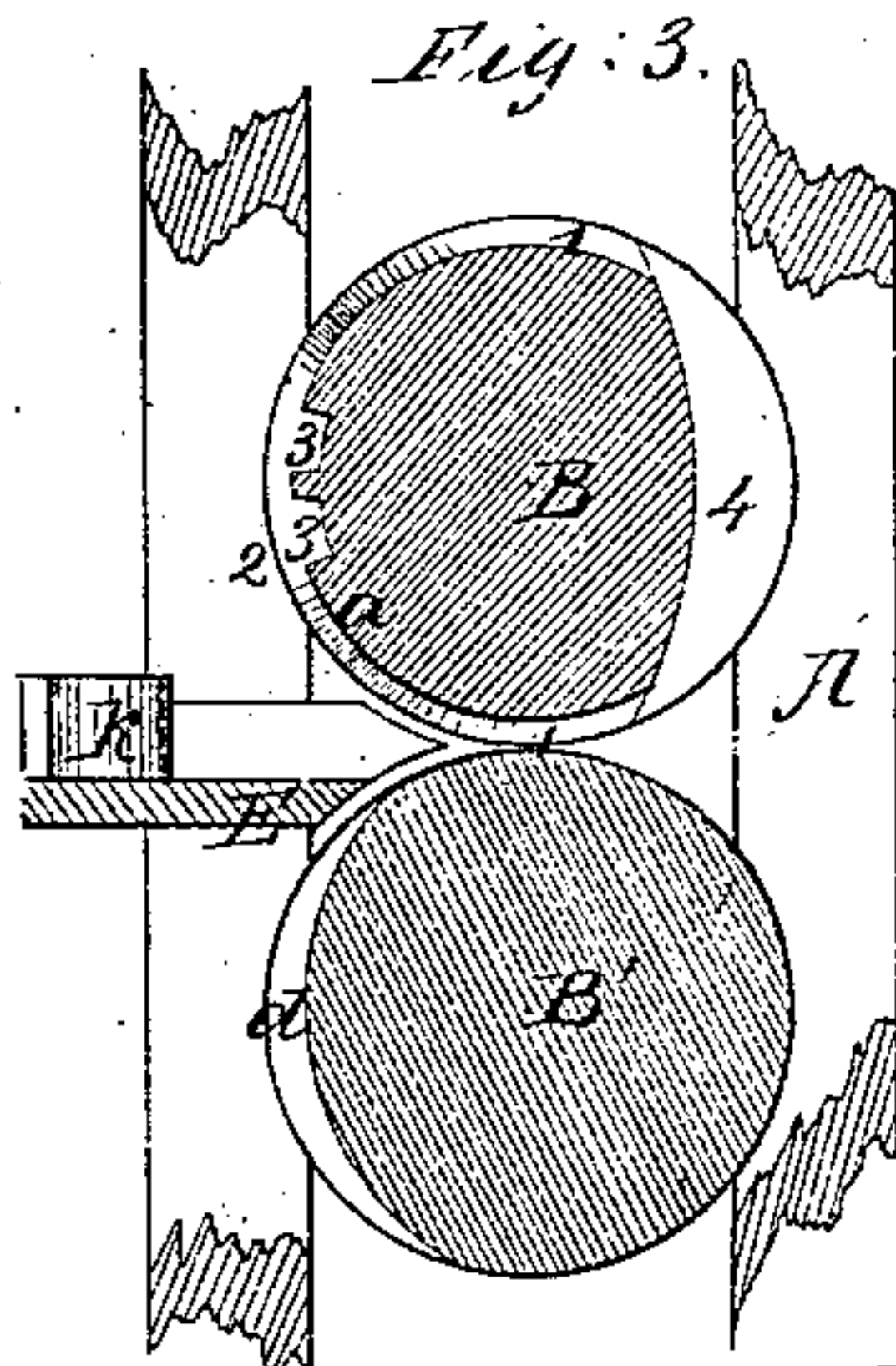
*Fig: 9.*



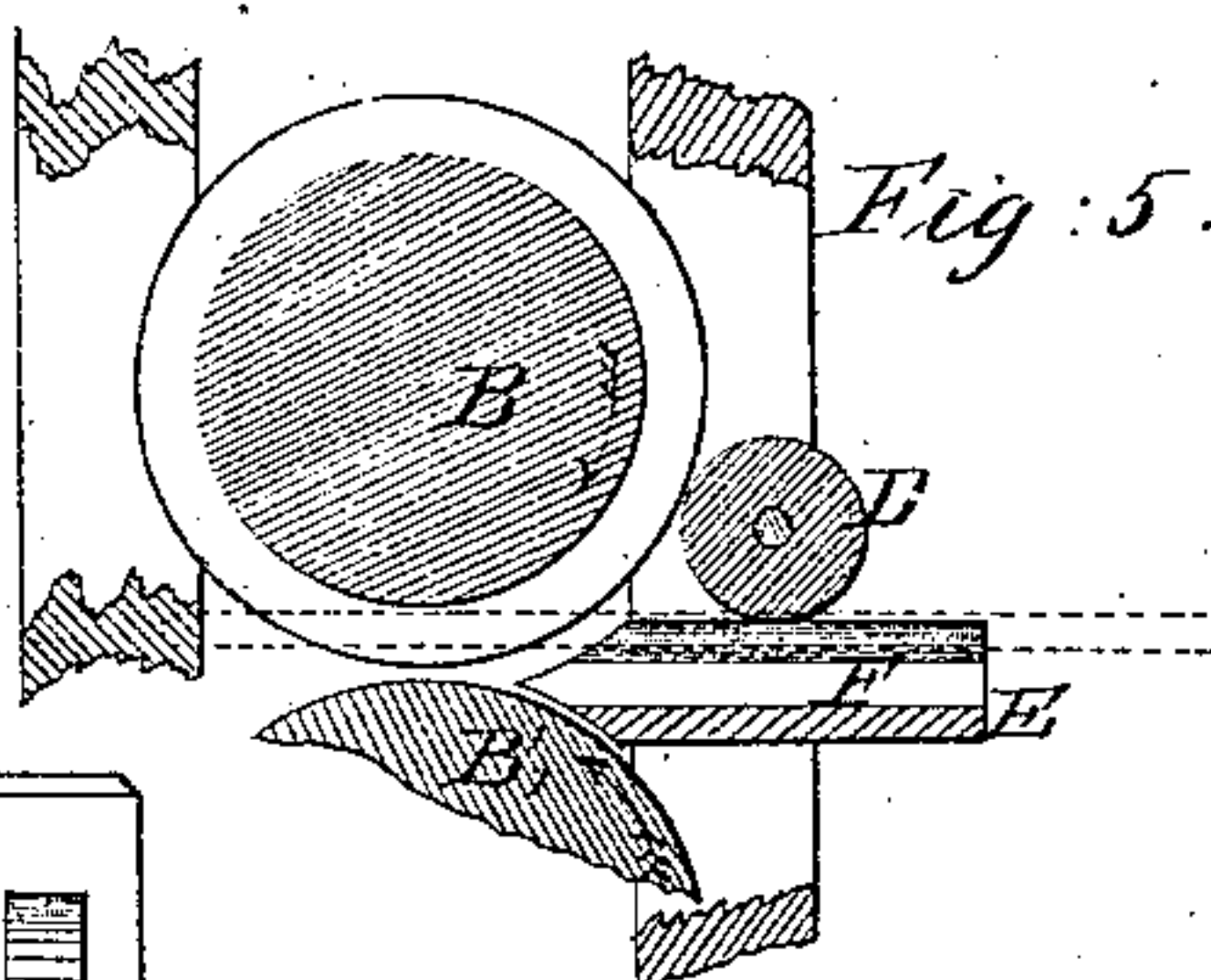
*Fig: 10.*



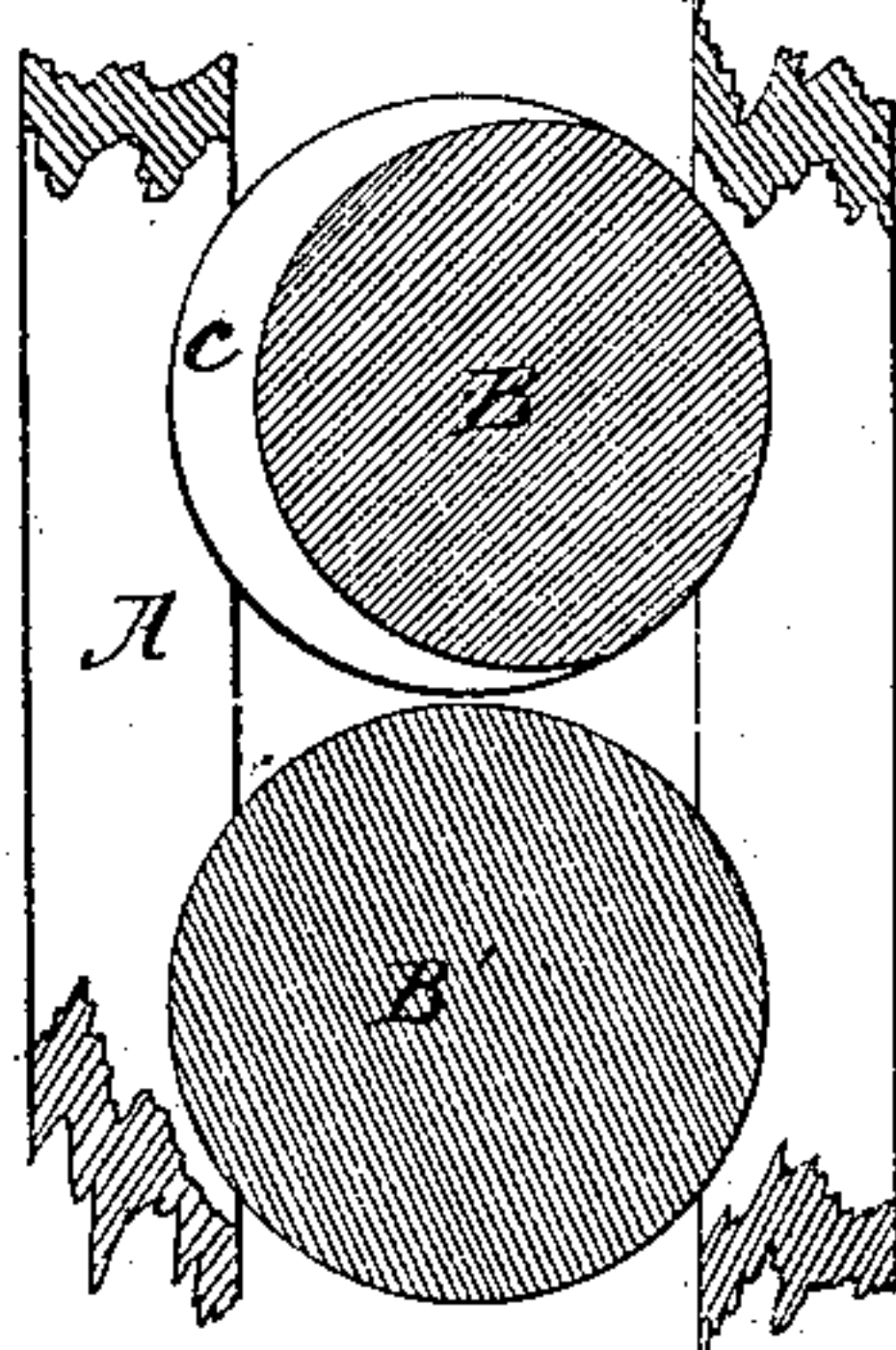
*Fig: 3.*



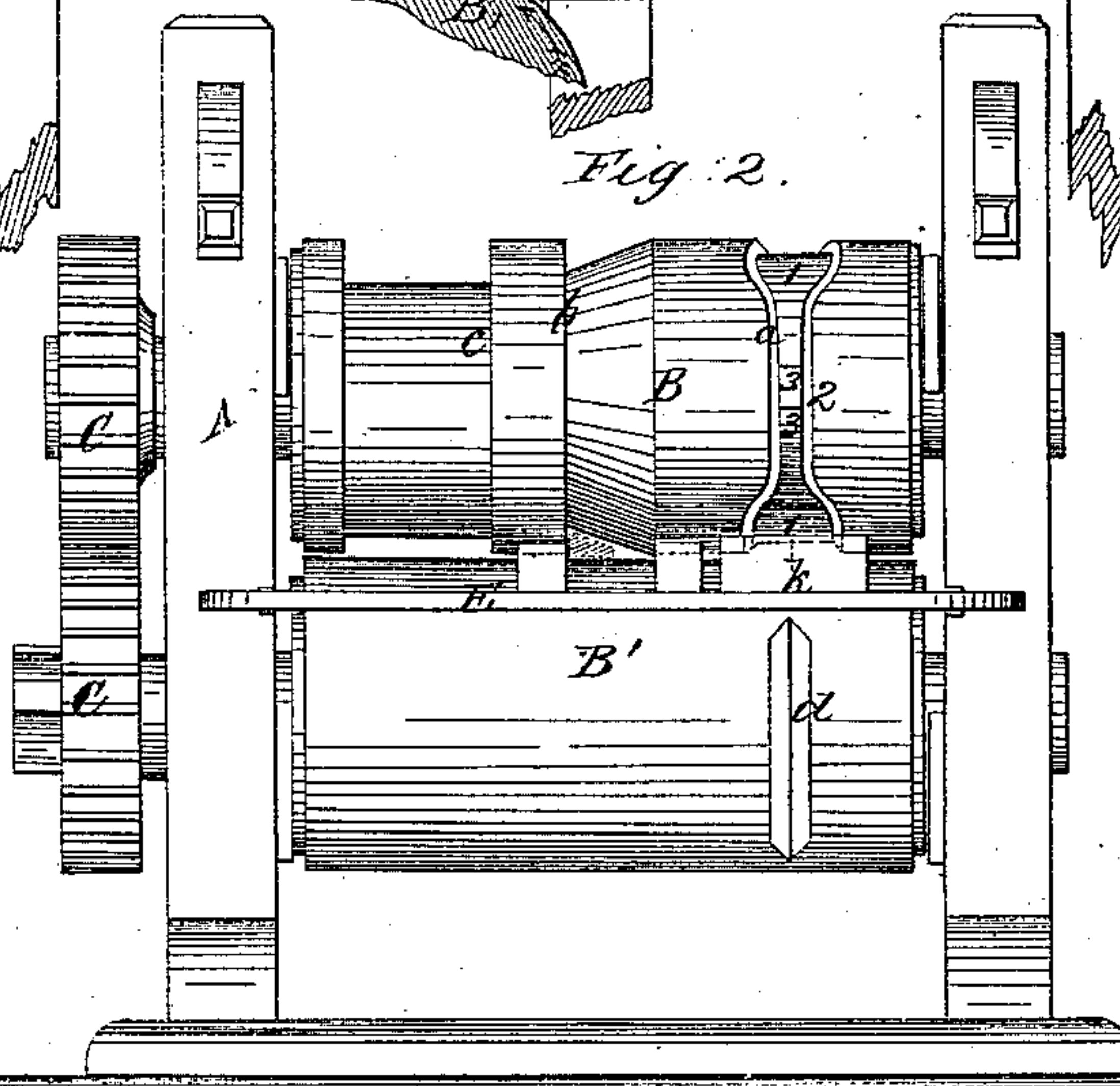
*Fig: 5.*



*Fig: 4.*



*Fig: 2.*



*Witnesses;  
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J. A. Service*

*Inventor;  
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Attorneys*



# United States Patent Office.

FELIX MURRAY, OF PITTSBURG, PENNSYLVANIA.

*Letters Patent No. 64,131, dated April 23, 1867.*

## IMPROVED APPARATUS FOR ROLLING CLEVISES AND PLOUGHSHARES.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, FELIX MURRAY, of Pittsburg, in the county of Allegheny, and State of Pennsylvania, have invented a new and improved Mill for Rolling Clevises and Shares for Ploughs; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a plan or top view of my invention.

Figure 2, a front view of the same.

Figure 3, a vertical section of the same taken in the line *x x*, fig. 1.

Figure 4, a vertical section of the same taken in the line *y y*, fig. 1.

Figure 5, a vertical section of the same taken in the line *z z*, fig. 1.

Figure 6, a view of a bar from which the clevises are rolled.

Figure 7, a view of said bar partially rolled.

Figure 8, a view of a finished clevis.

Figure 9, a view of a steel strip which is welded on the share.

Figure 10, a view of a share complete.

Similar letters of reference indicate corresponding parts.

This invention relates to a new and improved rolling-mill for rolling clevises and shares for ploughs, whereby said articles may be manufactured very expeditiously and at a moderate cost.

A represents a framing, which may be constructed in any proper manner to support the working parts, and B B' are two rollers, which are placed one over the other in the same axial plane, and connected at one end by gears C C, which mesh into each other to insure a simultaneous and equal rotary movement of the rollers. D is a roller considerably smaller in diameter than the rollers B B', and having its bearings at the front side of the framing A in front of the lower part of the upper roller B, as shown clearly in fig. 5. E represents a horizontal bed or platform attached to the framing A, a trifle below the level of the top of the lower roller B', and F is a fixed guide attached to the bed or platform in line with the centres of the two rollers B B', said guide being just below the roller D. The upper roller B has three grooves *a b c* made circumferentially in it. The groove *a* has two wide portions 1 1, connected by a narrow portion, 2, as shown clearly in figs. 1 and 2, and the narrow portion 2 has two indentations 3 3 made in it, as shown clearly in fig. 3. The other portion 4 of the groove is deeply sunken, as also shown in fig. 3. A portion of the periphery of the lower roller B' has a narrow V-shaped groove, *d*, made in it, said groove *d* being or working under the narrow part 2 of groove *a*.

In operating the machine, the power is applied to the lower roller B', the direction of the rotation being indicated by the arrows 1, (see fig. 5.) In forming or rolling the clevises, a piece of iron, *e*, fig. 6, is properly heated and passed between the rollers so as to be acted upon in the grooves *a d*, which causes the bar to be rolled at one end, as shown in fig. 7. The opposite end of the bar *e* is then rolled in the same manner, and then cut or divided in the middle, and each piece bent by any suitable means to form a clevis, shown in fig. 8. The parts *ff* of the clevis being formed in the wide parts 1 1 of the groove *a*, and the curved part *g* formed in the narrow part 2 of groove *a*, and in the groove *d* of the lower roller the projections *h* which form the niches formed by the indentations 3 3 in the narrow part 2 of groove *a*. The central groove *b* of the upper roller B is of V or bevel form, as shown clearly in figs. 1 and 2, and a strip of steel, *i*, fig. 9, by means of this groove is rolled in taper form transversely, as shown in red in fig. 2, and passes under the guide F on the platform E. This bevelled steel strip is then laid on the edge of a share, *j*, fig. 10, the parts heated to a welding heat and rolled between the rollers in the groove *c*, the latter being formed by a cut or recess in B, so as to leave the latter of eccentric form, as shown clearly in fig. 4. By this means the share and steel strip will be welded together and drawn down to a thin edge. The small roller D serves as a stripper and guide-roller, and a gauge or stop, *k*, is attached to the bed or platform E to insure the proper insertion of the bar *e* between the rollers. The clevis and share are inserted between the rollers B B' under the roller D, but the steel strip *i* is inserted between said rollers from the opposite side, the guide F preventing said strip from rolling up.

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

The rolling or forming of clevises and shares for ploughs by means of the rollers B B', provided respectively with the grooves *a b c* and *d*, and arranged with a stripping or guide-roller D, to operate substantially in the manner as and for the purpose set forth.

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Witnesses:

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