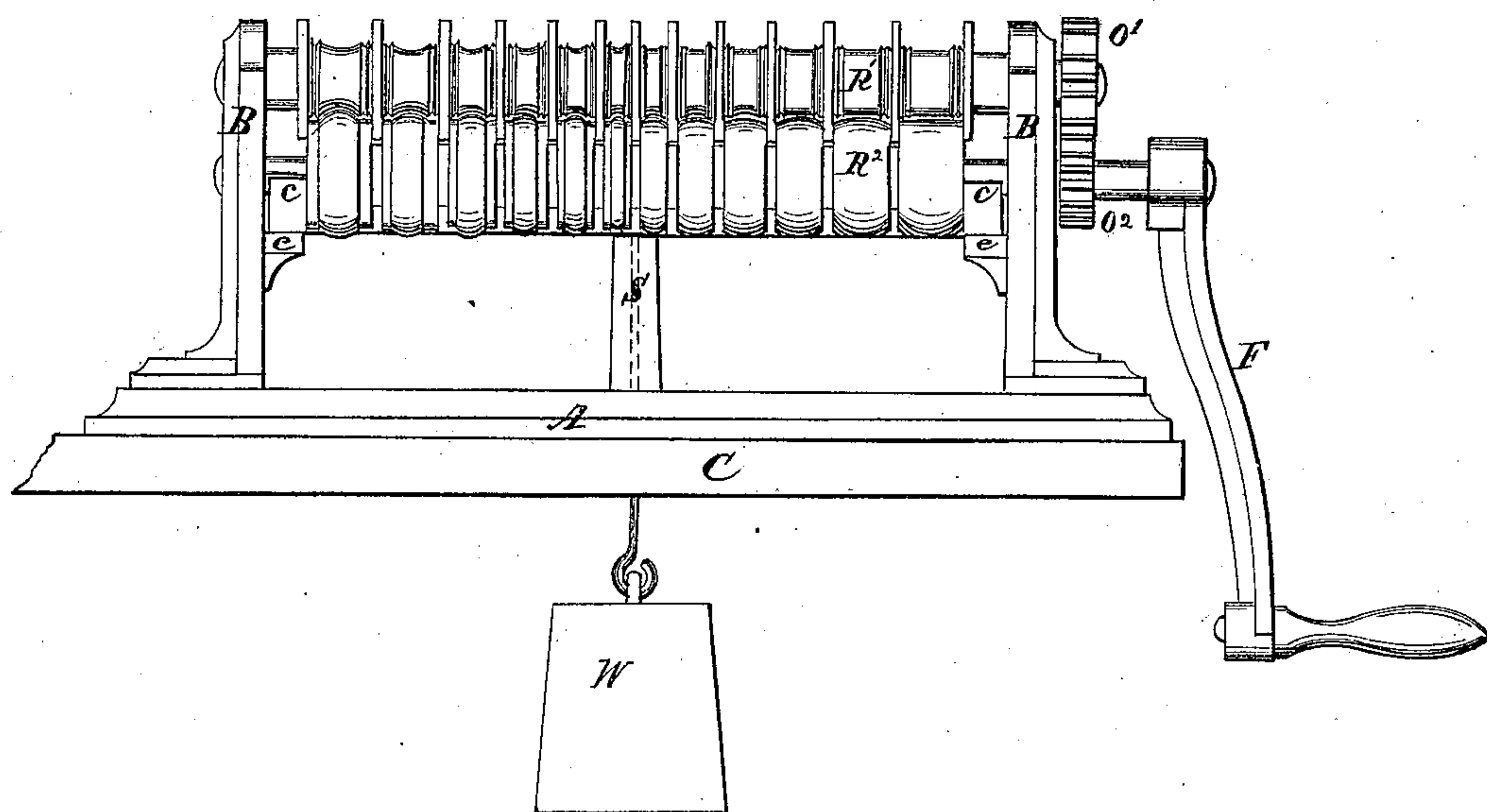
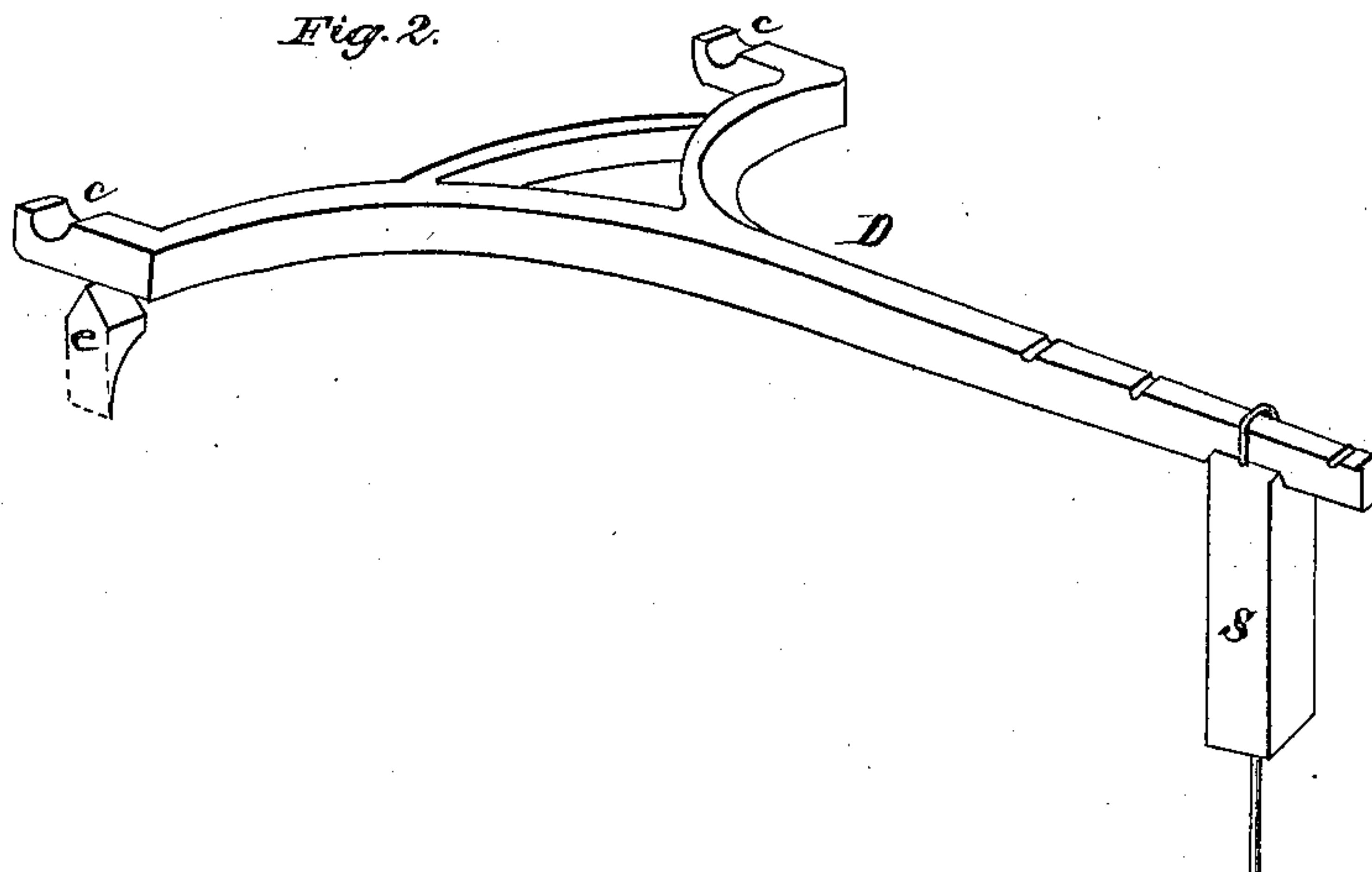


*C. W. Guest,*  
*Dressing Leather,*  
*No. 40,561,* *Patented Nov. 10, 1863.*

*Fig. 1*



*Fig. 2.*



*Witnesses:*  
*Lemuel Buckley*  
*George Johnson.*

*Inventor:*  
*Charles W. Guest*

# UNITED STATES PATENT OFFICE.

CHARLES W. GUEST, OF DEXTER, MICHIGAN.

IMPROVED MACHINE FOR RAISING, CREASING, AND SLICKING LEATHER.

Specification forming part of Letters Patent No. 40,561, dated November 10, 1863.

*To all whom it may concern:*

Be it known that I, CHARLES W. GUEST, of the village of Dexter, in the county of Washtenaw and State of Michigan, have invented a new and useful Improvement on Machines for Raising, Creasing, and Slicking Leather Straps for the Making of Harness, or other Analogous Uses; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a front elevation; and Fig. 2 a perspective view of the lever detached.

Similar letters of reference indicate corresponding parts in both figures.

The object of this improvement is to furnish a more simple, perfect, and comprehensive machine for the use of harness-makers, and the nature of which consists in the use of a pair of rollers, in combination with driving-gear (imparting a different relative motion to said rollers) and an adjustable weighted lever, the several parts being constructed, arranged, and operated in the manner I am now about to describe.

The frame of this machine consists simply of a horizontal bed-plate, A, (usually of wood,) at each end of which is erected a vertical cast-iron standard, (marked B,) which is provided with a bottom flange, through which the bolts or wood-screws pass to connect it firmly with the said bed-plate.

The raising, creasing, and slicking rollers  $R'$  and  $R^2$  revolve in bearings formed in the standards B B. I make these rollers sufficiently long to bear all the forms for the different width of both raised and flat straps in common use, and, to obviate springing, range them successively narrower from each end toward the center. The upper roller,  $R'$ , is best made of cast-iron, turned and polished. Each form on this is bounded by a thin, deep flange for confining the strap laterally, so that it cannot expand in that direction when under pressure, but be guided straight between the two rollers.

A reference to Fig. 1 will exhibit the various convexities and creases and flats, all of which may be altered or modified as necessity or fancy may dictate, and of course each form must be exactly the obverse of that designed

to be impressed upon the leather. The bottom roller,  $R^2$ , which I usually make of hard wood, with an iron or steel spindle tightly driven through the center, to stiffen it and form the journals, is provided with turned forms in obverse of the upper one. Thus the guide-flanges are sunk in corresponding grooves and the concavities are matched by convexities. The bearings in the standards B B for the journals of the wooden roller are made oblong, so as to allow for the passage of the various thickness of leather between the two rollers.

Fig. 2 exhibits a perspective view of the lever, usually made in cast iron. It consists of a straight horizontal bar, D, which forks near the machine in such manner as to allow the forked extremities to be introduced between the standards, the half-bearings C C being fitted to and bearing against the lower halves of the journals of the wooden roller, while the lever itself rests in a horizontal position on the fulcrums  $e e$ , which are cast in a proper position on the inner sides of the standard plates. The two rollers are brought together with the requisite force on the interposed leather by suspending a sufficiently heavy weight, W, to the end of the lever D. The rollers are rotated on turning the crank F by the intervention of the two spur gear-wheels  $o' o^2$ .

I usually erect my machine for operation by firmly screwing it down through the bed-plate A on the top of a work-bench,  $b$ , and suspend the weight W by a wire or cord, which passes through a narrow slot (not shown) cut through the bench-top, so that the weight will hang underneath, out of the way, and can yet be easily adjusted, by moving the suspending-wire along the lever D, to give the proper impression and finish to either light or heavy straps. The operator, after adjusting the weight W on the lever, introduces with one hand the strap to be creased and slicked, in the proper pair of forms, between the rollers, the finished side up, while with the other hand he turns the crank F, which is keyed to the wooden roller  $R^2$ . The gear  $o^2$  on this roller, meshing into  $o'$ , gives a reverse motion to the iron roller  $R'$ , by which the strap is drawn through and properly creased or raised and creased, as may be desired.

While this operation of creasing and form-



ing is going on the finished surface of the leather is being beautifully slicked in every part, as follows: The iron roller R' is caused to revolve with a slightly-decreased velocity as compared with the wooden one by making the spur gear-wheel o' a little larger than the driver by one or two cogs. As the rough, unfinished side of the leather adheres to the wooden roller better than the smooth finished side does to the polished iron, the finished side, while being creased and formed, is forced to slide against the iron under pressure, which produces a fine uniform polish. The rollers are preserved from injury by coming into contact with each other when there is no interposed strap by means of the stud S, (usually of wood,) which supports the weighted end of the lever D.

I am aware that machines for raising and creasing leather by passing it under pressure between rollers substantially the same as mine have been long in use, and that the mere addition of forms for creasing flat straps would not of itself constitute a patentable novelty. Neither do I believe that the mere slicking of the surface (separately considered) by the use of two cog-wheels of different size, or the mere substitution alone of the weighted lever for the spring or treadle attachment hitherto used would entitle me to a patent.

The principal difference between my improved machine and all others of the kind is that by the combined use of the different relative speed of the rollers and the weighted lever I am enabled to crease, form, and slick leather straps by one and the same operation and give them a perfectly-uniform depth of

impression and luster of finish, no matter how much variation there may be in the thickness. The leather hitherto has been formed and creased in such operations by spring or foot-treadle pressure, and it can be readily seen that perfect uniformity of result under all conditions cannot be produced in this way without frequent and troublesome adjustment and care. The weighted lever, once adjusted to the degree of pressure required, will not give out more by forcing the rollers apart by any increase of thickness in the strap, as will the spring, hence the superiority of uniform result in my arrangement, which is the only one in use, by which straps of varying thickness can be creased and slicked at the same time in a uniform manner.

I do not claim, broadly, shaping and creasing leather by passing the same under pressure between rollers having flanges, groove, ridges, and forms, by which the strap is confined, guided, and has impressed upon its surface the required form; but,

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

The employment of the rollers R' and R<sup>2</sup>, in combination with the unequal-sized spur-gear wheels o' and o<sup>2</sup>, and the forked and weighted lever D, constructed, arranged, and operated substantially as and for the purposes specified.

CHARLES W. GUEST.

Witnesses:

GEORGE JOHNSON,  
LEMUEL BRADLEY.