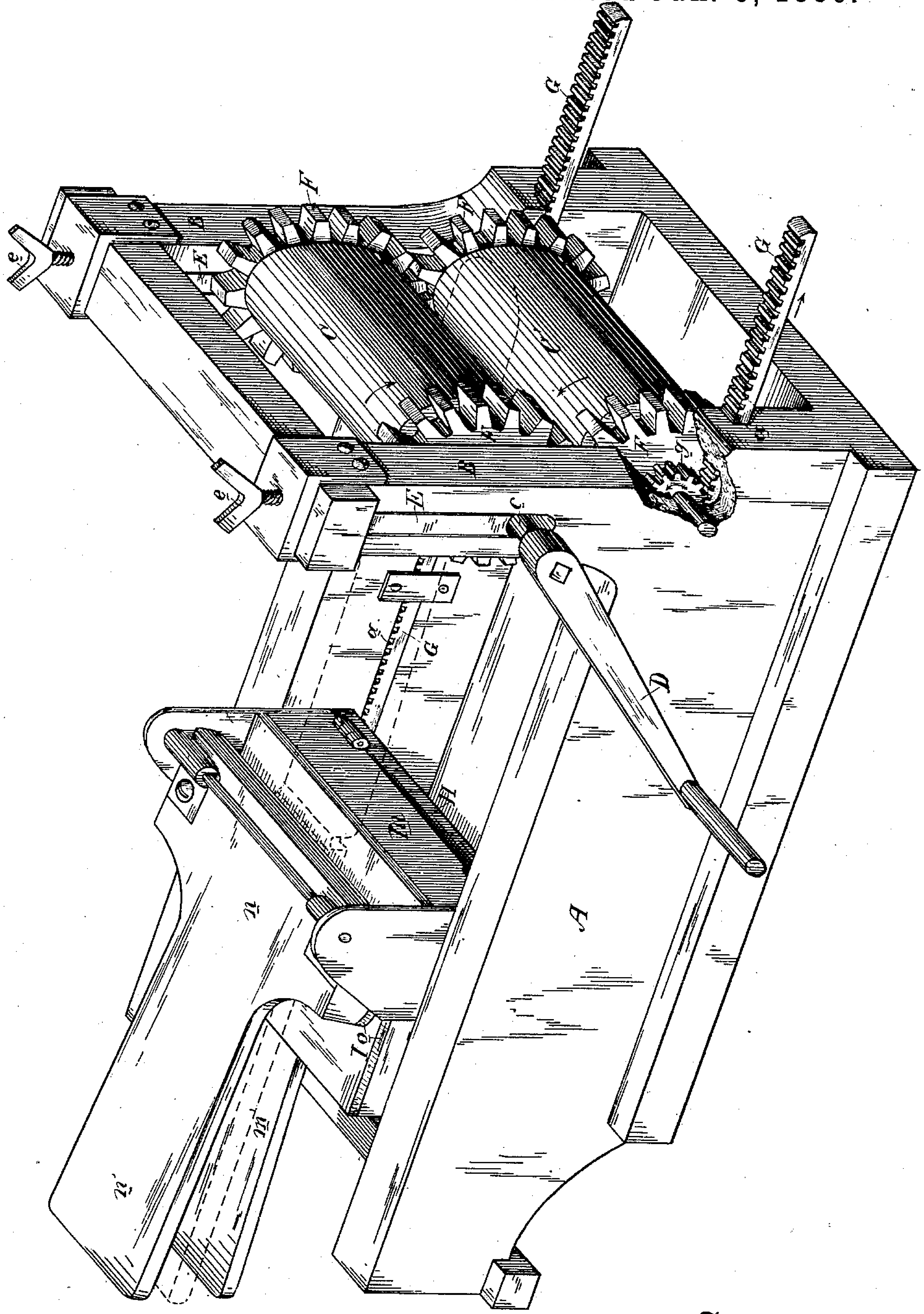
(No Model.)

I. LAWSON.

KNIFE CLEANER.

No. 333,761. Patented Jan. 5, 1886.



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UNITED STATES PATENT OFFICE.

ISHMAEL LAWSON, OF BUTTE, MONTANA TERRITORY.

KNIFE-CLEANER.

SPECIFICATION forming part of Letters Patent No. 333,761, dated January 5, 1886.

Application filed January 5, 1885. Serial No. 152,088. (No model.)

To all whom it may concern:

Be it known that I, ISHMAEL LAWSON, of Butte, county of Silver Bow, and Montana Territory, have invented an Improvement in Knife-Cleaners; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to a new and useful knife-cleaner; and it consists in the combination of devices, which I shall hereinafter fully explain and claim.

The object of my invention is to provide a simple and effective device or machine by which knives may be readily and rapidly cleaned.

Referring to the accompanying drawing, the figure is a perspective view of my machine.

A is a frame, having at one end standards B, in which are mounted the rollers C C'. These rollers lie parallel with each other, and may be made of any suitable material, preferably of rubber. The upper roller is provided with a shaft, *c*, one end of which projects beyond the standard and receives the operating-crank D. The lower roller is fixed in the standard; but the upper roller is made to be vertically adjusted by means of the sliding bearing-blocks E and thumb-screws *e* on the top of the standards. By means of these screws the upper roller may be forced down upon or as close to the lower roller as may be desirable. The ends of both rollers are provided with gears F, which mesh directly together, whereby the rollers rotate in opposite directions.

Fitted in grooves *a* in the sides of the frame are racks G, with which pinions *g* upon the shaft of the lower roller engage, whereby as the rollers rotate, the racks are at the same time reciprocated. Upon the rear ends of the racks is secured a carriage, H, which carries the handle-clamp I, which consists of a bed-piece, *m*, hinged at its forward end to the carriage and provided at its rear end with a handle, *m'*. In the sides of the bed-piece is pivoted or hinged the top piece or cam, *n*, which is provided with a handle, *n'*. The top *n* is adapted to bear down upon the bed-piece, and the impinging surfaces of both pieces are cushioned by means of any suitable elastic layer, such as rubber, here shown by *o*.

The operation of the device is as follows: Suitable cleaning compound or substance—the composition of which depends upon the knife to be cleaned—is placed upon the rollers C C'. The handle of the knife is placed between the two parts of the clamp I, which are bound down upon it by the operator grasping the handles *m' n'*. The blade of the knife projects in the direction of the rollers. With the other hand the operator then turns the crank, whereby revolution is imparted to the rollers, and at the same the carriage, with its clamp, and the knife move in the direction of the rollers. As the knife approaches the rollers, the operator springs the clamp in such a manner as to direct the blade accurately between the rollers. The operation is then continued until the blade has been forced through between the rollers, when the crank is reversed and the blade is forced to withdraw. The clamp is then released and the knife taken out.

It will be observed that by reason of the rollers being geared directly together, and the gearing between the lower roller and the racks being a direct one, the carriage is moved toward the rollers when they are rotating in the direction of the arrows, whereby they would naturally refuse to receive the blade between them. This is the effect desired, because through the positive forward movement of the carriage the blade is forced between them and fed forward against their direction of revolution, whereby the necessary rubbing or friction is effected. The reverse movement of the rollers has a similar effect. The carriage moves back, carrying the knife with it, the blade of which is drawn against the direction of revolution of the rollers. The carriage and clamp thus become a positive feeding device, as well as a guide.

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

1. In a knife-cleaner, the combination of oppositely-rotating parallel rollers upon which the cleaning composition or substance is placed, and adapted to receive and rub the knife-blade between them, a traveling carriage moving to and from the rollers, and operated thereby in a direction opposite to their direction of revolution, and a clamp for the knife-handle to feed the blade between

the rollers, said clamp being hinged upon the carriage, whereby it is adapted to be adjusted through a vertical arc to guide the blade to the rollers, substantially as herein described.

2. In a knife-cleaner, the knife-handle clamp I, consisting of a bed, *m*, having a handle, *m'*, and the pivoted or hinged top or cam *n*, adapted to bear down upon the bed, and having a handle, *n'*, by which and handle *m'* the compression is effected, substantially as described.

3. In a knife-cleaner, the knife handle clamp I, consisting of the cushioned bed *m*, having handle *m'*, and the pivoted cushioned top or cam *n*, having handle *n'*, and adapted to bear down upon the cushioned bed, substantially as described.

4. In a knife-cleaner, the combination of the oppositely-rotating parallel rollers C C', the reciprocating carriage H, moving oppositely to the direction of revolution of the rollers, and the adjustable handle-clamp I, consisting of the bed *m*, hinged to the carriage, and the top or cam *n*, hinged to the bed, all arranged to operate substantially as herein described.

5. In a knife-cleaner, the combination of the parallel rollers C C', having gears F, meshing directly together, the carriage H, the hinged handle-clamp I on the carriage, and the means for reciprocating said carriage in a direction opposite to the direction of revolution of the rollers, consisting of the racks G of the carriage, and pinions *g* on the lower roller, C', substantially as herein described.

6. The frame A, having standards B, and the parallel rollers C C', mounted therein and geared directly together, in combination with the carriage H, the hinged or adjustable handle clamp I on the carriage, the racks G, to which the carriage is secured, and mounted in the sides of the frame, and the pinions *g* on the lower roller meshing with the racks, substantially as herein described.

7. A machine for cleaning knives, consisting of the frame A, having standards B, the vertically-adjustable upper roller, C, having shaft *c* and crank D, the fixed lower roller, C', the gears F, by which the rollers are connected, and the pinions *g* on the lower roller, the carriage H, the knife-clamp I, consisting of the handled bed *m*, hinged to the carriage, and the handled top or cam *n*, hinged to the bed, and the racks G, on which the carriage is mounted, and with which the pinions *g* engage, all arranged and operating substantially as herein described.

In witness whereof I have hereunto set my hand.

ISHMAEL LAWSON.

Witnesses:
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