G. A. CHAPMAN.

Journal and Bearings.

No. 161,665. Patented April 6, 1875.

Fig. 1.

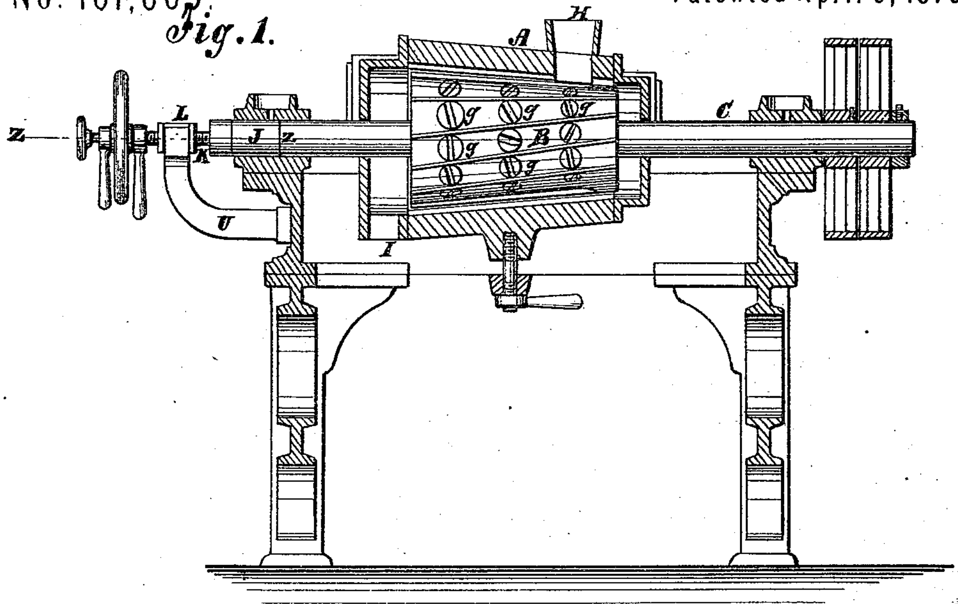


Fig. 2.

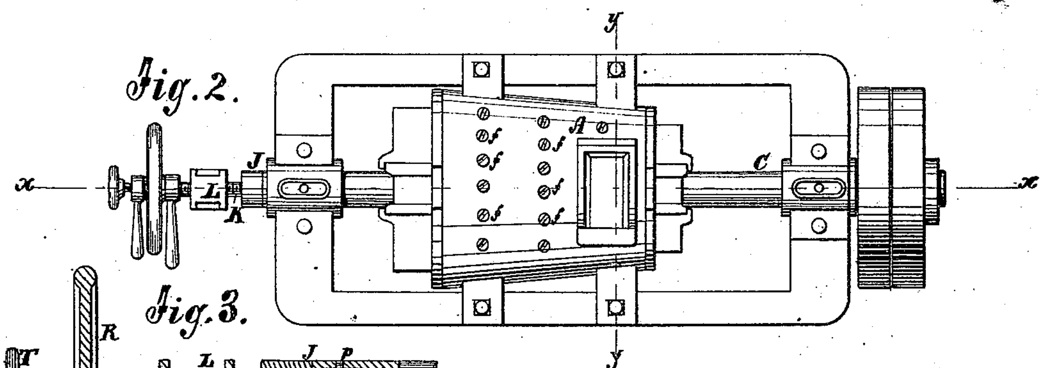
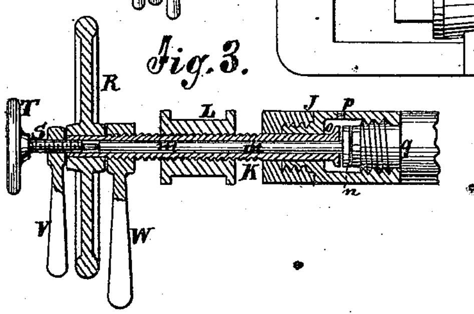


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

GEORGE A. CHAPMAN, OF MILLBURY, MASSACHUSETTS.

IMPROVEMENT IN JOURNALS AND BEARINGS.

Specification forming part of Letters Patent No. **161,665**, dated April 6, 1875; application filed September 25, 1874.

To all whom it may concern:

Be it known that I, GEORGE A. CHAPMAN, of Millbury, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Flock-Machine, of which the following is a specification:

This invention relates to new and useful improvements in machines for manufacturing flock, as will be hereinafter more fully set forth and described.

In the accompanying drawing, Figure 1 is a vertical longitudinal section of the machine, taken on the line *x x*, Fig. 2. Fig. 2 is a top view of the machine as when completed.

Similar letters of reference indicate corresponding parts.

It is well known that what is called flock in commerce is manufactured from pieces or scraps of woolen fabrics, either textile, felted, or fibrous. For this purpose old clothes are used to a great extent, being separated into small fragments, by a machine provided for the purpose, before being introduced into the flock-machine. The main features of the flock-machines in common use are the shell and the cylinder, the former representing a frustum of a hollow cone and the latter the frustum of a solid cone, revolving within the shell on a horizontal shaft, both being provided with a series of cutters or knives spirally arranged, so that they work together similar to the blades of a pair of shears.

A represents the shell. B is the cylinder. C is the shaft. The heads of the screws *g* are placed at short distances apart, in the spaces between the knives, so that the knives will be firmly held. When it is necessary to raise the knives, as they wear off, the screws are loosened and strips of metal are introduced into the grooves, and then the screws are again turned down. The rags are fed into the hopper H and the flock is discharged from the aperture I. (See Fig. 1.) When the cylinder is running and at work there is always a heavy back pressure, and the friction on the end of the shaft is very great, no suitable means having been provided for lubricating that point and taking up the play or slack occasioned by the wear; and, more than all, preventing longitudinal vibration in either direction. Much inconvenience and damage has been the consequence. To provide for these difficulties I screw onto the end of the shaft a chambered sleeve, J, which holds the shouldered tubular screw K, which latter works through the stationary nut L. Within the screw is a sliding pin, *m*, the head *n* of which bears against the end of the shaft, as seen in the sectional Fig. 4. O is an oil-chamber in the sleeve J. Oil is introduced into this chamber through the orifice *p*, which is closed by a small screw, as seen in the drawing. The sleeve fits tightly against the shoulder *q* of the shaft, and the shoulder or collar on the end of the screw K closes tightly the other end of the sleeve, so that, when oil is once introduced into the chamber, it cannot escape; consequently, the end of the shaft, being within the chamber, runs in oil. R is a little hand-wheel on the screw K. S is a screw, which works in the outer end of the screw K, and its end bears against the end of the pin *m*. T is a small hand-wheel, by which this screw S is turned. The nut L is held stationary by the bracket U. (See Fig. 1.) The nut L is allowed some vertical play in the bracket as a provision for the wear of the journal-box or journal of the shaft. V W are jam-nut levers to hold those screws in position. By this arrangement it will be seen that the sleeve J revolves with the shaft, and around the tubular screw K. The cylinder is consequently held by this screw K and prevented from working longitudinally in either direction; while, by means of the small screw S, the cylinder is adjusted to cut fine or coarse flock, as may be desired. The friction caused by the back pressure of shaft is against the head of the pin *m*, and, both being in the closed oil-chamber O, that frictional point is always kept well lubricated. When the cylinder is running without feed its tendency is to work forward or in the opposite direction, but this is prevented by the collar on the end of the tubular screw K.

By these improvements I overcome very serious objections to the flock-machine as now used. By my mode of inserting and fastening the knives, and in providing for the lateral vibration of the cylinder and its adjustment in the shell, the machine is made much

more perfect and effective than it has heretofore been.

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

1. In combination with the shaft of a flocking-machine, the sleeve J, shouldered screw K, and stationary nut L, substantially as shown and described.

2. The combination of the sleeve J, screw K, pin *m*, with the stationary nut L, and screw S, substantially as and for the purpose described.

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Witnesses:
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