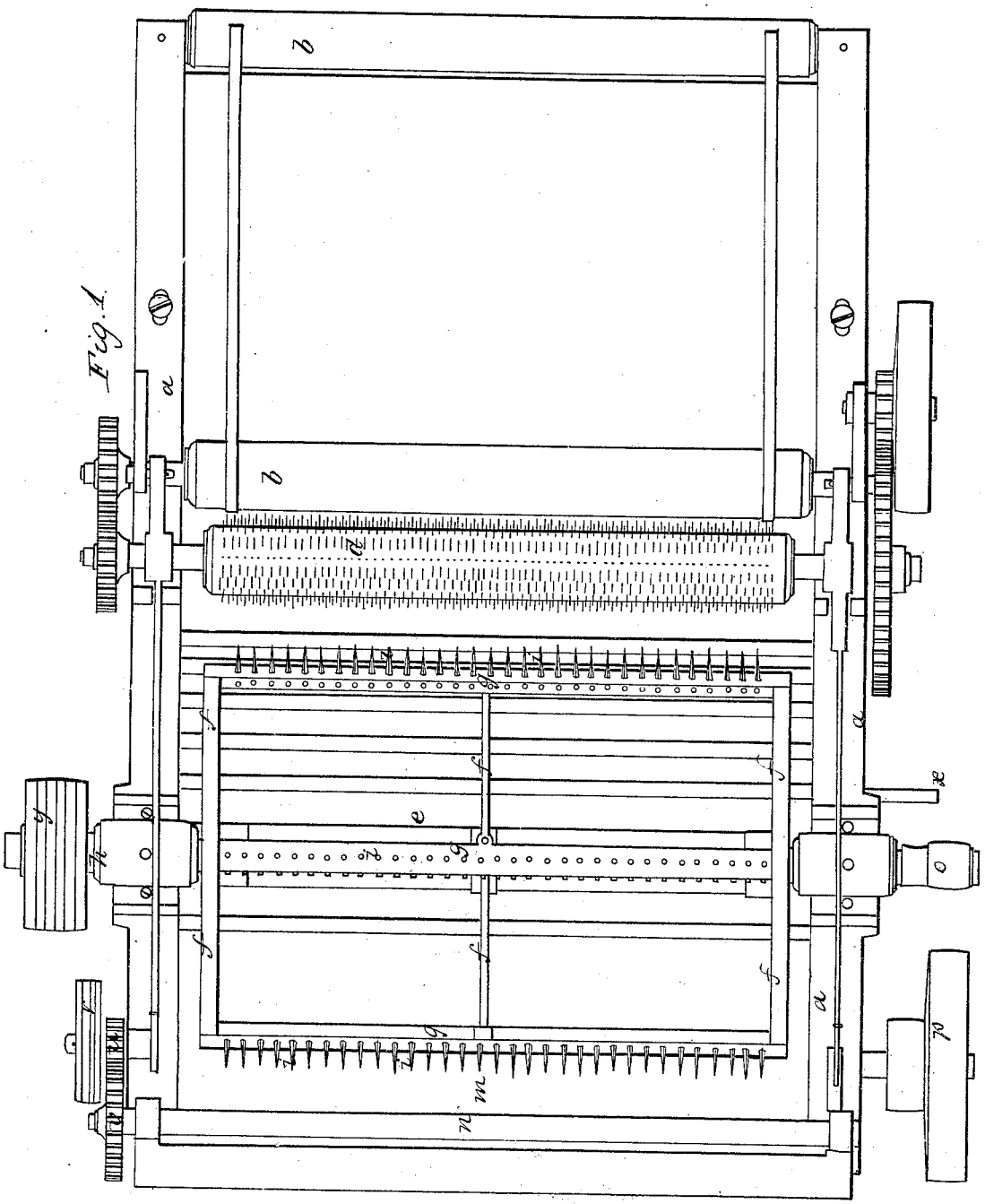
Sheet 1. 3 Sheets.

Daniels & Dewey.

Wool Picking Mach.

No. 6,259. Patented Apr. 3, 1849.

Fig. 1.



Sheet 2. 3 Sheets.

Daniels & Dewey.
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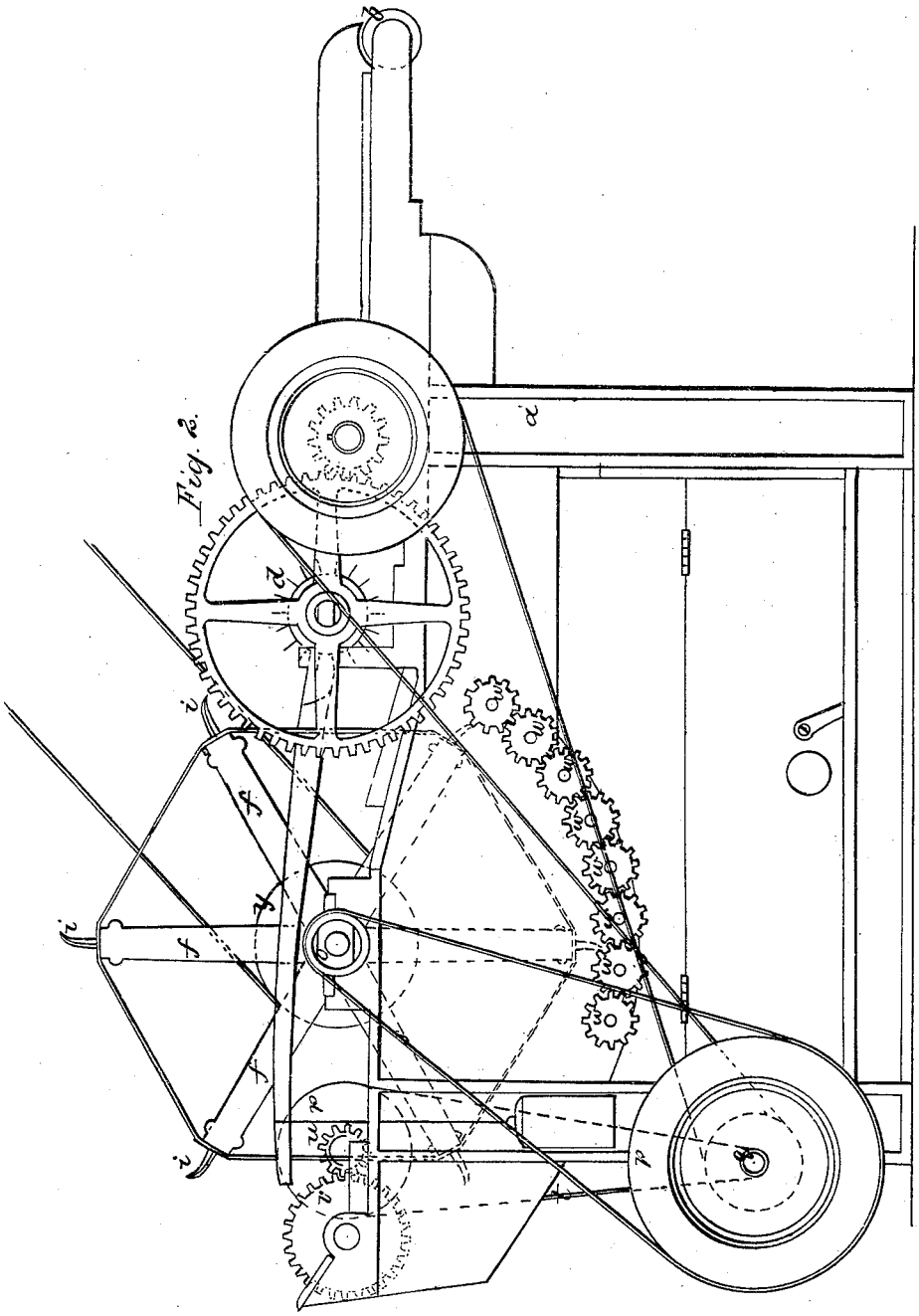
No. 6,259. Patented Apr. 3, 1849.

Fig. 2.



Sheet 3. 3 Sheets

Daniels & Dewey.

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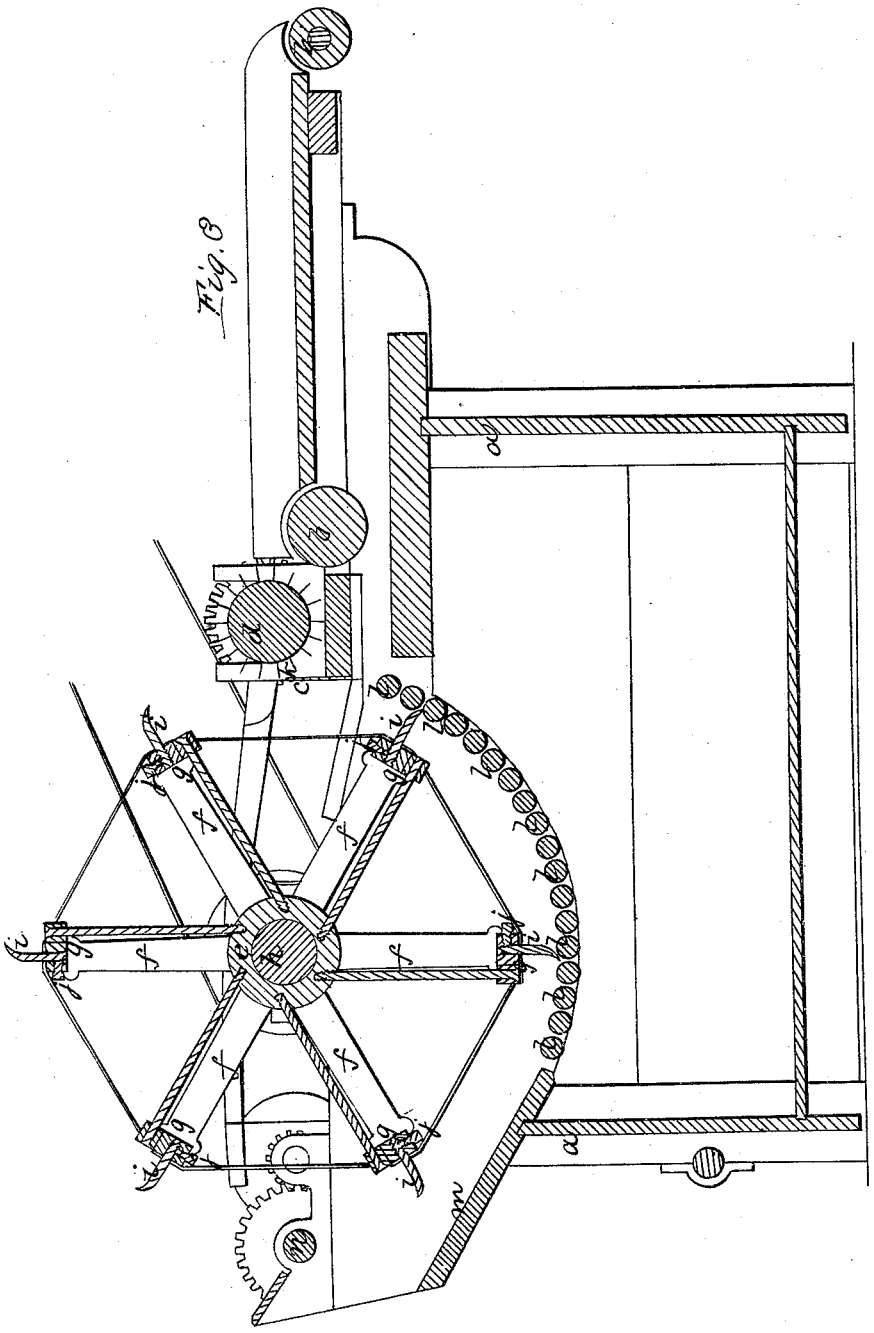
No. 6,259. Patented Apr. 3, 1849.

Fig. 8



UNITED STATES PATENT OFFICE.

REUBEN DANIELS, OF WOODSTOCK, AND ALBERT G. DEWEY, OF HARTFORD, VERMONT.

MACHINERY FOR PICKING WOOL, &c.

Specification of Letters Patent No. 6,259, dated April 3, 1849.

To all whom it may concern:

Be it known that we, REUBEN DANIELS, of Woodstock, and ALBERT G. DEWEY, of Hartford, in the county of Windsor and State of Vermont, have invented certain new and useful Improvements in the Machine for Picking Wool, and that the following is a full, clear, and exact description of the principle or character which distinguishes them from all other things before known and of the manner of making, constructing, and using the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a plan of the machine; Fig. 2, a side elevation; and Fig. 3, a longitudinal vertical section.

The same letters indicate like parts in all the figures.

The machines heretofore made for picking wool have been attended with only partial success. The effectiveness of such machines is dependent mainly on the form of the teeth of the rotating picker, and although these have been variously formed with the view to act properly on the fibers and separate them, yet until my improvements were essayed the pods, that is the aggregation of fibers, were not effectually opened without injury to the fibers.

It has long since been known that straight pointed teeth will not open the pods for the centrifugal force has the effect to throw them off from the teeth before they have been sufficiently beaten to loosen the pods and liberate the fibers. To avoid this the teeth were then made with hooked points bent at right angles with the radial stems, but experience has shown that this, while it prevents the pods from being thrown off, causes them to hang too long on the teeth, the resistance of the air caused by the rotation forces them against the heel of the hook, and the centrifugal force against the under face, and there they remain hanging in the angle of the hook until another pod is taken and held in the same manner, which in a short time clogs the operation of the machine.

To remedy this evil my invention consists simply in making the hook of the teeth in a curve of about a sixth of a circle, which by experiments I have found to prevent the retention and accumulation of the pods, so that they are gradually by the heating action in passing over the concave forced onto the enlarged part of the tooth, opened, and the fibers effectually separated without injury to the fibers, and without clogging the machine.

The second part of my invention relates to the method of cleaning the concave and thereby preventing undue accumulations of dirt thereon; and this part of my invention consists in making the concave of round bars placed at appropriate distances apart and hung on journals to admit of turning them when they are combined with two series of cogged pinions, one series at one end being connected with alternate bars, and the other series with the other alternate bars. In this way when they are turned they rotate in opposite directions and effectually discharge all the impurities which have a tendency to adhere to the bars by reason of the oil or fat of the wool. And the last part of my invention which relates to the delivery, consists in using a roller which has a slow rotary motion instead of a permanent piece heretofore employed for the upper edge of the delivery aperture. The slow rotary motion of the roller presents a change of surface for the beating action of the picker. As heretofore made particles adhere and accumulate on the permanent surface, and when the accumulation becomes too great it is beaten off and frequently endangers the machine, but by substituting the roller that has a slow rotary motion the surface is gradually changed and the accumulation beaten off regularly and in a direction which cannot endanger the machine.

In the accompanying drawings (*a*) represents the frame, (*b*) the rollers for the feed apron, (*c*) the feeding shell, (*d*) the toothed roller for presenting the wool to the action of the rotating picker cylinder (*e*), which is composed of series of arms (*f*), at each end and in the middle with connecting bars (*g*) paralleled with the shaft (*h*) and at appropriate distances apart. In each of these bars are inserted a series of teeth (*i*) let into holes made therein and secured by temper screws (*j*) to admit of removing, inserting, and adjusting them, which is highly important in a practical point of view.

These teeth are placed in a radial position, but their points which are gradually sharpened are curved in the direction of the rotation of the cylinder to form a segment of about a sixth of a circle.

The wool is fed to the machine by an

apron in the usual manner and presented to the action of the picker cylinder over the edge (*k*) of the shell by the toothed feed roller, and when thus presented, the teeth enter the pods and in passing around beat them against a series of round bars (*l*) arranged around the picker cylinder in a segment of a circle, and as the pods strike these rollers they are gradually forced into the enlarged part of the teeth which opens the pods sufficiently to admit of separating the fibers by the beating action.

At the rear end of the series of rollers there is an inclined board (*m*) which forms part of a delivery spout through which a current of air with the liberated fibers &c., pass out; and above this there is a roller (*n*) which receives a slow rotary motion by the series of pulleys (*o*, *p*, *q*, *r*), belts (*s t*), and cog wheels (*u* and *v*), so that the fibers and pods still adhering to the teeth will in passing this roller be knocked off and discharged, and as the fibers are greasy this whipping action tends to cause an accumulation of dirt, &c., but as the roller rotates slowly it is constantly presenting new and clear surface, and as soon as the dirt, which may have accumulated to a small extent passes around, the beating action throws it off and thus keeps the roller clean, which is highly important to the successful application of such a machine. The roller bars of the concave are formed with journals at each end to admit of turning, and they are divided into two sets, the first, third, fifth, &c., constituting one set, and the second, fourth, &c., the second set, and the bars of each set are geared together by means of cogged pinions (*w*) so that one half of each set turn in the opposite direction of the other half, one of the bars being extended out as at (*x*) to receive a winch or handle by which all the bars of the series are turned to discharge the dirt and other accumulations. The other set is connected in the same manner by a series of cog wheels on the other side not shown in the drawings.

The shaft of the picker cylinder is provided with a pulley (*y*) to receive a belt from some first mover, and from a pulley (*o*) on the end motion is communicated to the other parts, as represented in the drawings.

What we claim as our invention and desire to secure by Letters Patent, is—

1. The forming of the concave of a series of rolling bars geared together at the ends in the manner and for the purpose specified, in combination with the picker cylinder, as described.

2. And finally, we claim in combination with the picker cylinder the slow turning rollers placed above the delivery, substantially in the manner and for the purpose specified.

REUBEN DANIELS. [L. S.]
ALBERT G. DEWEY. [L. S.]

Witnesses:
GAINS DERKINS,
N. HASKETT.