No. 640,159. Patented Dec. 26, 1899.

R. W. EATON.

CARDING ENGINE.

(Application filed June 20, 1899.)

(No Model.) 2 Sheets—Sheet 1.

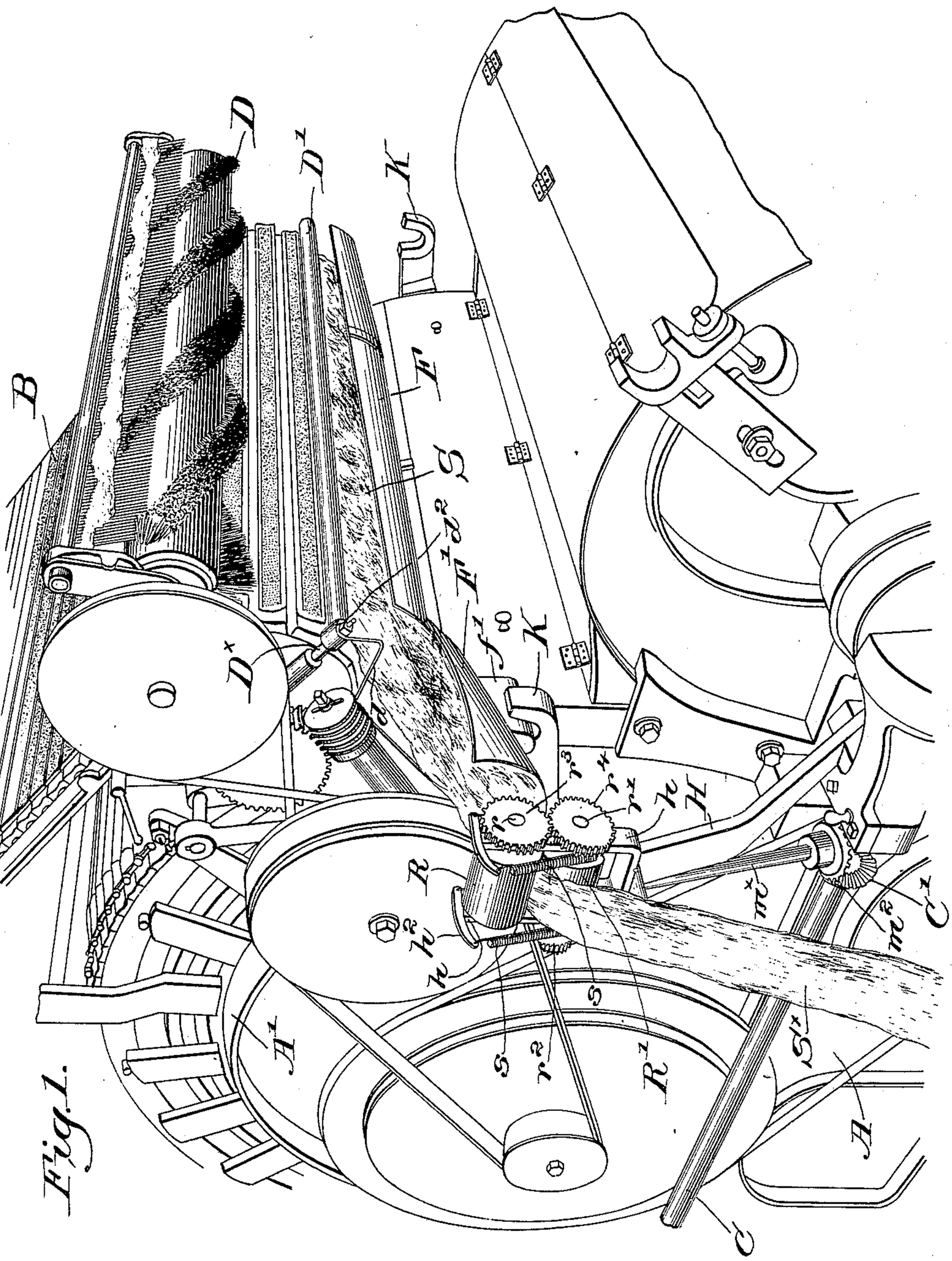

Fig. 1.

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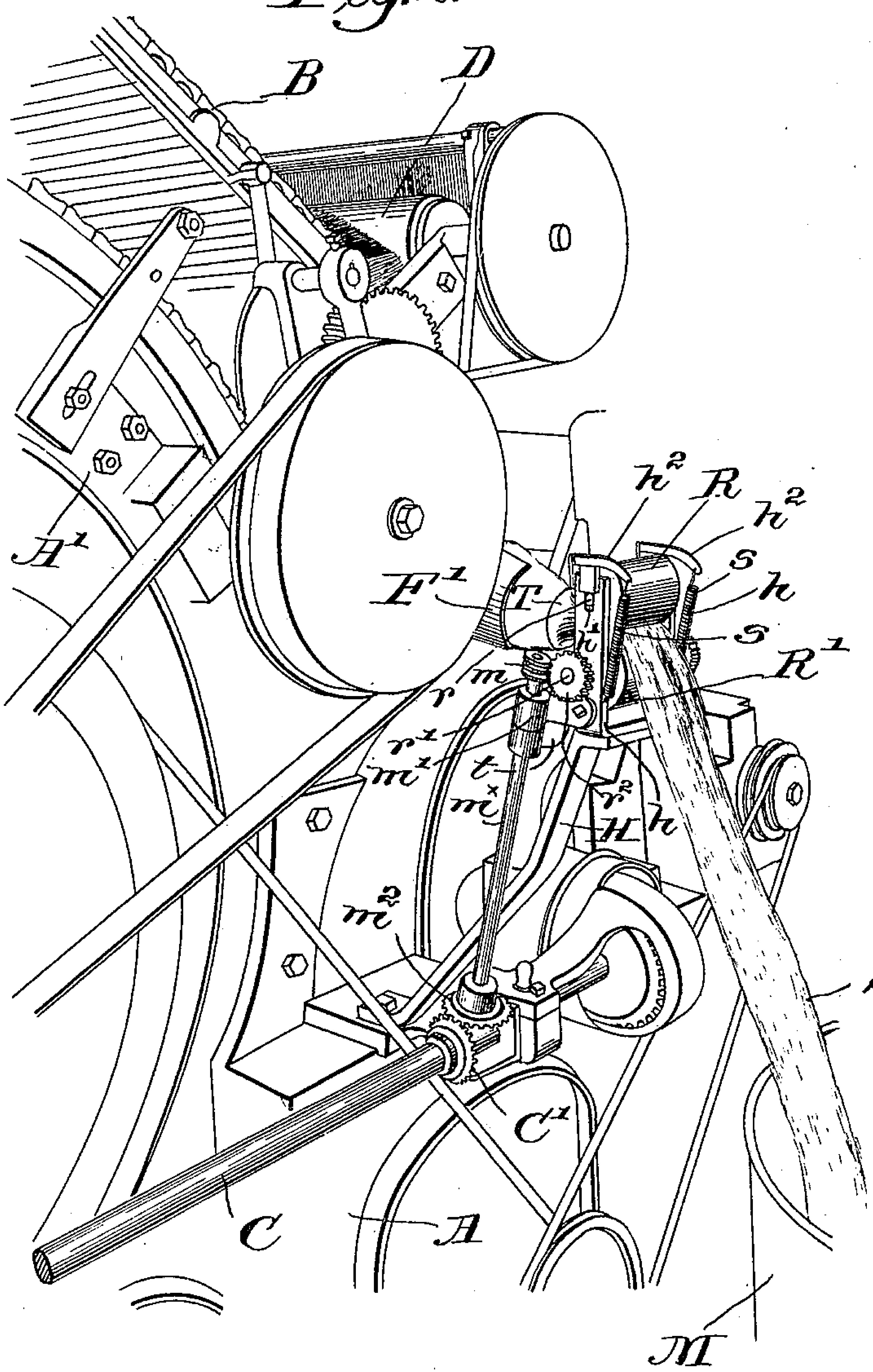
Fig. 2.



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UNITED STATES PATENT OFFICE.

RUSSELL W. EATON, OF BRUNSWICK, MAINE, ASSIGNOR TO THE MASON MACHINE WORKS, OF TAUNTON, MASSACHUSETTS.

CARDING-ENGINE.

SPECIFICATION forming part of Letters Patent No. 640,159, dated December 26, 1899.

Application filed June 20, 1899. Serial No. 721,205. (No model.)

To all whom it may concern:

Be it known that I, RUSSELL W. EATON, of Brunswick, county of Cumberland, State of Maine, have invented an Improvement in Carding-Engines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object the production of novel means for removing the strippings or waste from the traveling flats of a carding-engine, whereby the strippings will be discharged in the form of a continuous and substantially uniform sliver, which can be subjected to subsequent operations and made into yarn.

Figure 1 is a perspective view of the front of a sufficient portion of a traveling-flat carding-engine to be understood, with one embodiment of my invention applied thereto; and Fig. 2 is a perspective view of the side of a portion of the mechanism shown in Fig. 1 viewed from the rear.

The main frame A, the arch A′, the traveling flats B, the side shaft C, the revolving brush D, and the oscillating or vibrating knife D′, which strikes off or removes the strippings or waste, may be and are of usual or well-known construction.

In accordance with my invention I mount a trough-like receptacle F below the knife and in front of the traveling flats and extended transversely across the same to receive the strippings S as removed from the flats by the knife.

In one of the grinder-roll stands K, I detachably mount a second trough F′, which meets the end of the trough F and forms a continuation thereof extending beyond the side of the engine, a lug f' on the under side of the trough F′ resting in the stand K, as clearly shown in Fig. 1.

A strut H is rigidly secured to the main frame, and its upper end is forked or bifurcated at h h to form bearings for the journals r and r' of two rolls R and R′, respectively, the journals of the upper roll R being shown best in Fig. 2 as vertically movable in slots h' of the branches h. Arms h^2, pivoted on the branches, have depending portions which rest upon the journals r and exert downward pressure thereupon to press the rolls together either by means of weights or, as herein shown, by springs s, fastened at one end to the free ends of the arms and at their other ends secured to the branches. The rolls are geared together by intermeshing pinions r^3 r^4, (see Fig. 1,) and a worm-gear r^2 is shown in Fig. 2 on the journal of the roll R′ in mesh with a worm m, fast on the upper end of a short shaft $m^\times$, mounted in a bearing m', secured to a part of the stand H, the lower end of the shaft having fast upon it a bevel-gear m^2 in mesh with a like gear C′ on the side shaft C of the engine, whereby rotation of the rolls R and R′ is effected.

A trumpet T, Fig. 2, is supported in any suitable manner, as from the bearing m', by a foot t, the trumpet collecting and compacting the mass of strippings as it leaves the trough F′ and delivering it to the rolls R R′.

In operation after a little of the waste has collected in the trough F the attendant takes it at the end and pulls it along the trough F′ and through the trumpet T to the rolls, which latter engage it, and thereafter the waste will be drawn off continuously, and it may be discharged from the rolls into a can or other suitable receptacle M, Fig. 2, in the form of a practically uniform sliver $S^\times$, to be subsequently made into yarn, if desired.

The stripping frees itself readily from the traveling flats except at the edge near the rolls, and to facilitate the removal of the stripping at such point I have herein shown a clearer d, made as a rearwardly-bent wire, extended across the top of the mass of the stripping adjacent the edge of the flats and mounted on one of the knife-carrying arms $D^\times$ in any suitable manner, as by a nut d^2, Fig. 1. The clearer d strikes the stripping with sufficient force to readily free it from the flats.

It will be obvious that two or more pairs of rolls may be used instead of the one pair shown to draw the sliver finer before it is discharged, if desired.

There is nothing to interfere with the continuous operation of the waste-removing apparatus except when it is desired to strip the

cylinder or to grind it, and in such case the auxiliary trough F′ is removed from the roll stand or bearing K to permit the stripping or grinding roll to be mounted in the bearings. The card is not then running and producing waste, consequently the utility of my invention is not impaired, as there is no occasion for its operation when stripping or grinding the cylinder.

While I have shown one practical embodiment of my invention without attempting to show the various modifications which might be made therein, various modifications or rearrangements of the construction shown may be made without departing from the spirit and scope of my invention.

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

1. In a carding-engine, means to collect the waste or strippings and to continuously and directly form the same into a sliver and discharge it as a sliver.

2. In a carding-engine, traveling flats, means to remove waste or strippings therefrom, and means including a trough-like receptacle, to collect the same and to discharge it in the form of a sliver.

3. In a carding-engine, traveling flats, means to remove waste or strippings therefrom, a stationary receptacle to receive the same, and means to continuously draw the strippings from said receptacle and to discharge the same in the form of a sliver.

4. In a carding-engine, traveling flats, means to remove waste or strippings therefrom, a receptacle to receive the same, and drawing-rolls located at or near one end of said receptacle, to draw the contents therefrom and discharge the same as a continuous sliver.

5. In a carding-engine, traveling flats, a stripping device therefor, a trough extended transversely below said device to receive the waste or strippings from the flats, drawing-rolls, and a removable auxiliary trough between the rolls and the main trough, the waste being drawn from the troughs by the rolls and discharged as a continuous sliver.

6. In a carding-engine, traveling flats, an oscillating stripping-knife, a clearer movable therewith at one end of the flats, means to receive the strippings or waste as removed by the knife and clearer, and drawing-rolls to engage the strippings or waste and discharge the same as a substantially uniform sliver.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

RUSSELL W. EATON.

Witnesses:
DAVID D. GILMAN,
PHILIP ROOT, Jr.