(No Model.)

B. F. ALTER.

BALING PRESS.

No. 563,543. Patented July 7, 1896.

Fig. 1.

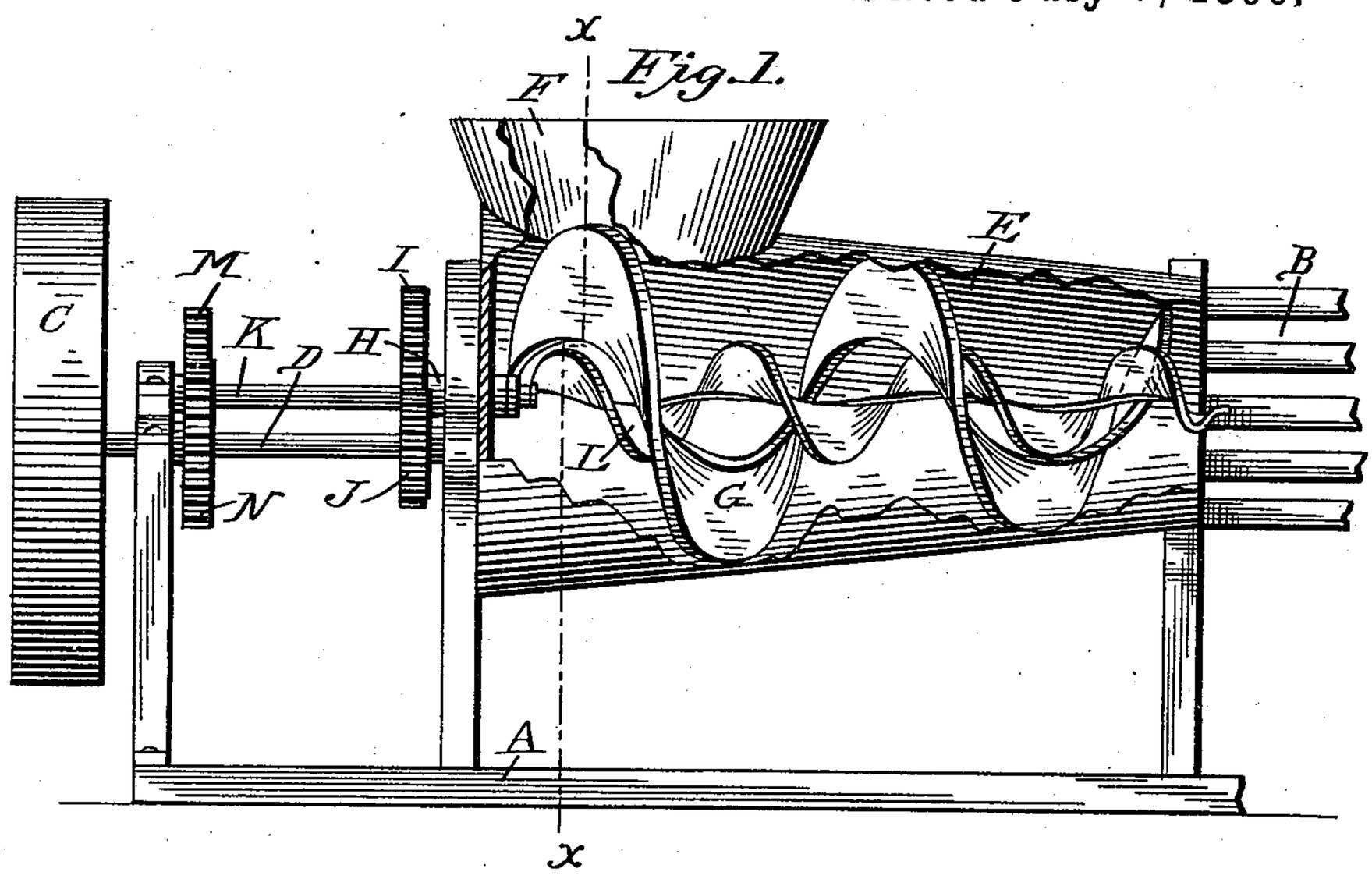


Fig. 2.

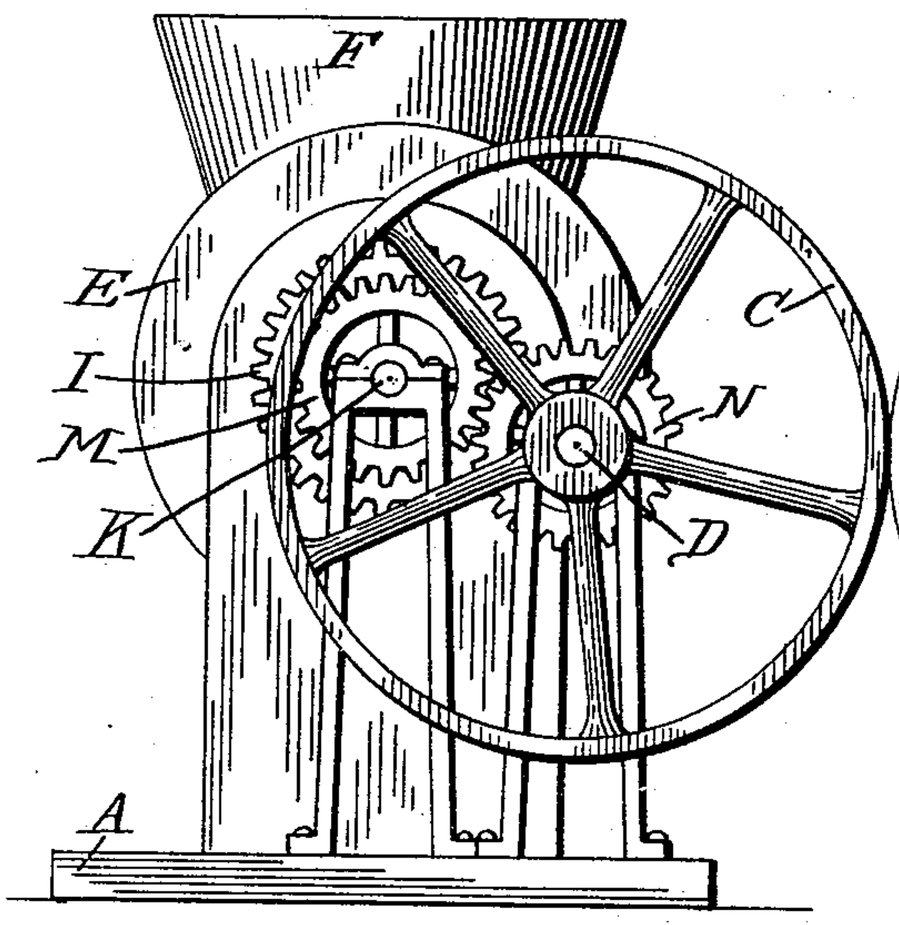
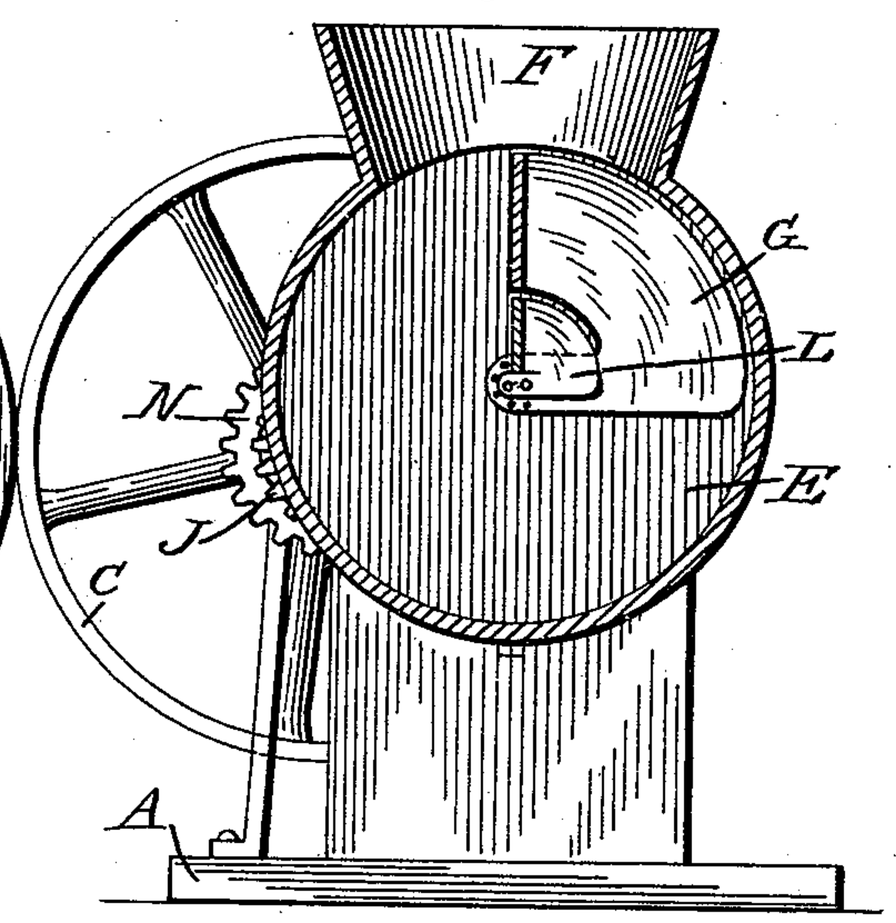


Fig. 3.



Witnesses
Edwin G. Lu^r Kee,

A. E. Hall

Inventor
Benjamin F. Alter

John Wedderburn
Attorney

UNITED STATES PATENT OFFICE.

BENJAMIN F. ALTER, OF RUSSIAVILLE, INDIANA.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 563,543, dated July 7, 1896.

Application filed September 19, 1895. Serial No. 562,992. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN F. ALTER, a citizen of the United States, residing at Russiaville, in the county of Howard and State of Indiana, have invented certain new and useful Improvements in Hay-Baling Presses; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to certain new and useful improvements in presses designed more especially for pressing hay into bales, and the novelty resides in the peculiar combination and the novel construction, arrangement, and adaptation of parts, all as more fully hereinafter described, shown in the drawings, and then particularly pointed out in the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a side elevation of my improved press with portions broken away. Fig. 2 is an end view showing the position of the gearing, and Fig. 3 is a vertical cross-section through the press on the line *x x* of Fig. 1.

Like letters of reference indicate like parts throughout the several views.

Referring now to the details of the drawings by letter, A designates a suitable support or framework, upon which the various parts are mounted. B is the baling-chamber, supported at one end of said frame, as shown in Fig. 1, and which chamber itself may be of any of the well-known or approved forms adapted for this purpose.

C is the drive-pulley, by which the press is run, and which pulley is designed to receive its motion from any suitable source of power. (Not shown.) This pulley is carried by a suitable shaft D, mounted in suitable bearings in the frame.

E is a casing of any suitable material, preferably metal, suitably supported within the frame and of truncated conical shape. It is provided with a suitable feed-hopper F, and the discharge end of this casing or shell communicates with the baling-chamber B, as seen in Fig. 1. Within this shell or casing is the larger spiral G, carried by a hollow shaft H, upon which is a gear-wheel I, which is designed to mesh with the gear J. The shaft K passes through this hollow shaft and carries the smaller and centrally-disposed spiral L, the end of which extends into the end of the baling-chamber, as seen in Fig. 1. M is a gear-wheel on this shaft, meshing with the spur-gear N, all as clearly shown in Fig. 2. The gears are so proportioned that the smaller spiral revolves faster than the larger one, the relative rate of speed being varied as may be desired, but ordinarily designed to be, say, two to one. The smaller spiral terminates in a point, as shown, which will be held practically steady by the material in the baling-chamber. The larger spiral is of such a diameter as to practically fill the shell or casing, and at its outer edge may be broadened or flattened out, as seen in Fig. 1, so as to form a sort of wing or trowel shaped end, thus affording an increased pressure on the material to be pressed.

With the parts constructed and arranged substantially as above set forth the operation, briefly stated, is as follows: Motion being imparted to the drive-pulley, the material is fed into the shell or casing through the hopper, where it is immediately taken up by the spirals and forced toward the baling-chamber, being gradually compressed as it nears the discharge end of the casing, from which it is forced and compressed into the baling-chamber. The smaller spiral will by its more rapid motion draw a portion of the material into the interior, and the larger spiral catches or presses against the remainder of the material in the chamber. Both spirals making an inclined plane along the edge, the material slips or slides without impediment or obstruction until it is forced into the baling-chamber.

Modifications in detail may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages. The smaller and centrally-disposed spiral L may be detachably mounted at the inner end of the chamber, as seen in Fig. 3. It will also be noticed that the spirals G and L are upon

different angles and in different planes, which disposition I have found to produce more satisfactory results.

What is claimed as new is—

1. The combination with the case and its feed-hopper, of two spirals arranged within the case one within the other, and means for revolving the same at different rates of speed, substantially as described.

2. The combination with the case, of a spiral mounted to revolve therein, and having a flattened free end, and an independent spiral, the two being arranged one within the other substantially as described.

3. The combination with the case, of a spiral mounted to revolve therein, and having a flattened free end, and an independent spiral mounted to revolve at a greater rate of speed, terminating in a point, said spirals being arranged one within the other, substantially as specified.

4. The combination with the case, of the shaft within the same and the spiral carried thereby, and a smaller and centrally-disposed spiral detachably mounted at the inner end of the case, the said spirals being upon different angles and in different planes, substantially as shown and described.

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

BENJAMIN F. ALTER.

Witnesses:
JNO. A. MORRISON,
T. V. PIXLER.