A. C. NAGEL & R. H. KAEMP.

FLOUR-DRESSING MACHINE.

No. 181,704. Patented Aug. 29, 1876.

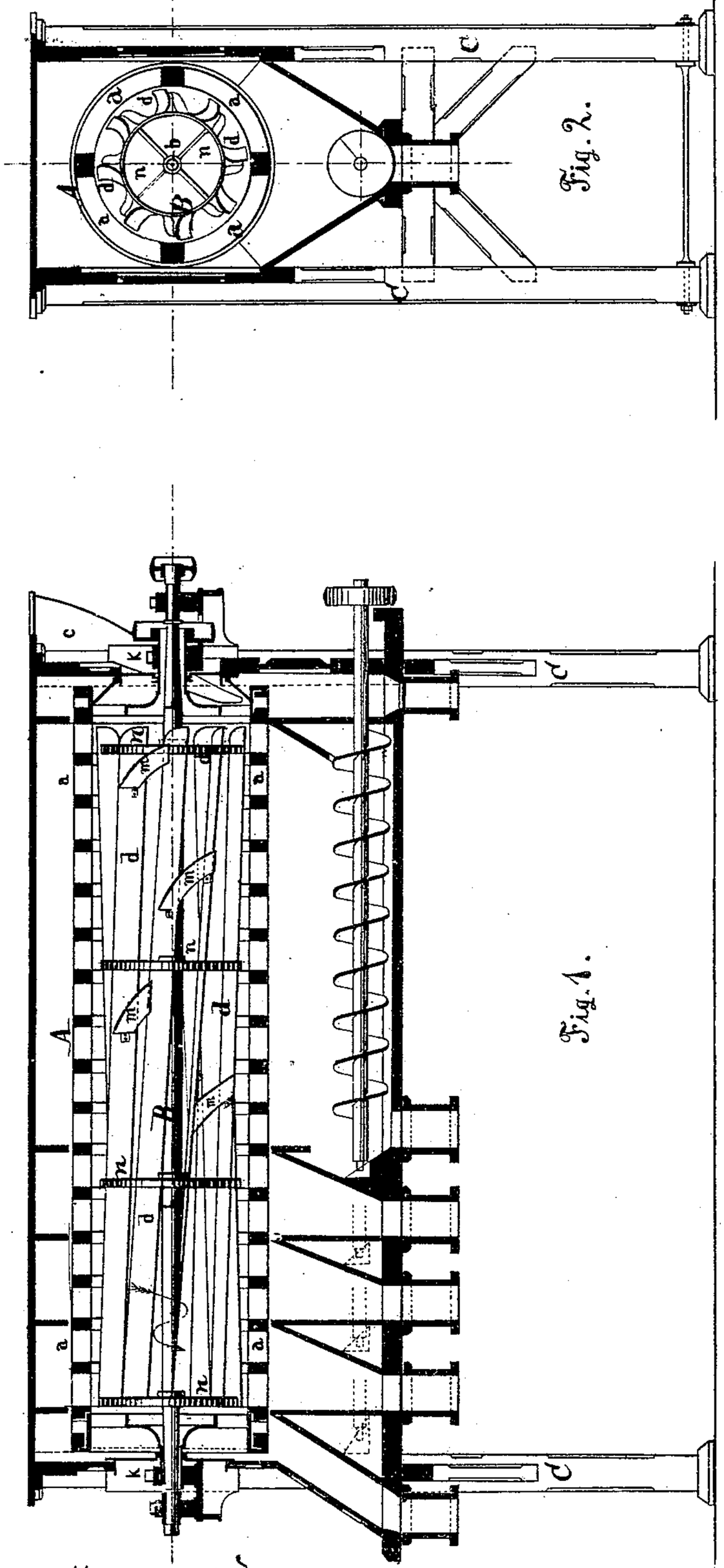

Fig. 1.

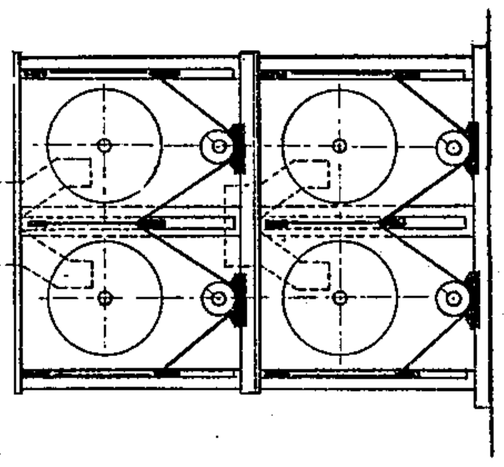

Fig. 2.

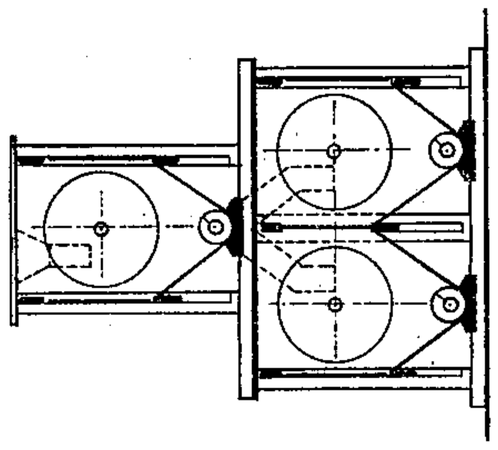

Fig. 6.

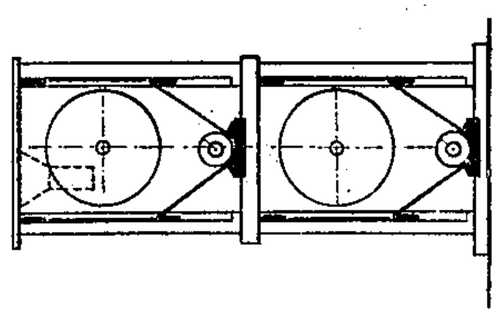

Fig. 5.

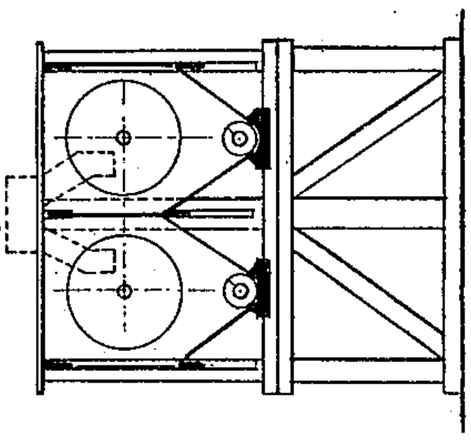

Fig. 4.

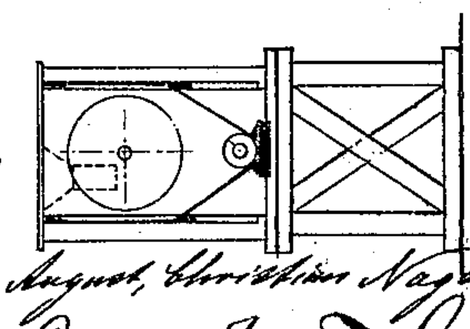

Fig. 3.

Witnesses.
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Reinhold Hermann Kaemp

UNITED STATES PATENT OFFICE.

AUGUST CHRISTIAN NAGEL AND REINHOLD HERMANN KAEMP, OF HAMBURG, GERMANY.

IMPROVEMENT IN FLOUR-DRESSING MACHINES.

Specification forming part of Letters Patent No. **181,704**, dated August 29, 1876; application filed July 3, 1876.

To all whom it may concern:

Be it known that we, AUGUST CHRISTIAN NAGEL and REINHOLD HERMANN KAEMP, both of the city of Hamburg, in the Empire of Germany, have invented a new and useful Improvement in Flour-Dressing Machines; which improvement is fully described in the following specification, reference being had to the accompanying drawing, in which—

Figure 1 represents a longitudinal vertical section of our improvement. Fig. 2 is a vertical cross-section thereof. Figs. 3 to 7, inclusive, are modifications of the same.

Similar letters indicate corresponding parts.

Our invention relates to certain improvements in machines for dressing flour; and consists in combining one or more auxiliary spiral blades with the agitator arranged within the dressing-cylinder, the auxiliary blade or blades being so arranged as to extend in a spiral line, which is greater or shorter than that of the main blades of the agitator, in such a manner that, by the action of the auxiliary blade or blades, the meal is thrown forward at a certain point or points in the cylinder with increased speed; further, in combining one or more partition-plates with the agitator arranged within the dressing-cylinder, for the purpose of retarding the progress of the material in the cylinder.

In the drawing, the letter A designates the dressing-cylinder of our machine, and B is the agitator, arranged within the cylinder. The cylinder A is provided with hollow gudgeons *k*, and it has its bearings in standards C, forming part of the machine frame, while it is constructed in four (more or less) parts or sections, *a*, each having sieves affixed thereto, and which are united by means of screws or rivets, so that any of the sections can be detached independently of the remaining sections. The agitator B is composed of a series of blades, *d*, which are bent in a spiral line, and of a central shaft, *b*, which latter extends through the hollow gudgeons *k* of the dressing-cylinder, and has its bearings in the standards C. The spiral blades *d* are preferably curved in cross-section.

By running the shaft *b* through the hollow gudgeons *k* of the dressing-cylinder A, the shaft is adapted to be rotated independently of the cylinder, and both the shaft and the cylinder are provided with pulleys, so that a revolving motion may be imparted thereto, either in the same or in different directions.

With the dressing-cylinder A is combined a hopper, *c*, by which meal is fed thereto. When meal is admitted to the dressing-cylinder A, and a revolving motion is given to the agitator B, the blades *d* throw the meal by centrifugal force against the side of the cylinder, and if the latter is at the same time rotated, a very thorough separation of the particles takes place. The meal is caused to advance by the screw-like action of the blades *d* until every grain has either passed through the side of the dressing-cylinder A or dropped out at the rear end thereof, at which point the cylinder is left open for this purpose.

In practice, the driving-gear of our machine is so arranged that the agitator B is revolved with greater speed than the dressing-cylinder.

For the purpose of propelling the meal forward at any certain point or points with greater speed than by the blades *d*, we make use of auxiliary blades *m*, one or more, and if, on the contrary, it is desired to retard the progress of the material at any part or parts of the cylinder, one or more partition-plates, *n*, are combined with the agitator B, as indicated in Fig. 1. The auxiliary blades *m* are fastened to the main blades *d* of the agitator by means of screws or rivets, and they are bent in such a way that each forms a segment of a spiral which is shorter than that of the main blades *d*. The partition-plates *n* are secured to the shaft *b* in any suitable manner, and when more than one is used, they are preferably placed at equal distance apart. The said partition-plates *n* are provided with incisions to receive the main blades *d*, and they are moreover made of such diameter that a space is left between their edges and the side of the cylinder for the passage of the material. In some cases the partition-plates *n* are perforated.

For the different requirements in the manufacture of flour, two, three, or more of our dressing-machines may conveniently be combined, as shown in Figs. 4 to 7.

Those parts of our machine represented in the drawing, and not herein described, do not materially differ from like parts of machines hitherto well known, and we therefore deem a description thereof herein unnecessary.

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

1. The combination, with the blades *d* of the agitator B, of one or more auxiliary blades *m*, set at a greater inclination to the axis of said blades, substantially as and for the subject specified.

2. In combination with the agitator B and reel or dressing-cylinder A, the partition-plates *n*, one or more, arranged substantially as and for the object specified.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

AUGUST CHRISTIAN NAGEL.
REINHOLD HERMANN KAEMP.

Witnesses:
PAUL MÖLLER,
H. SCHRADER.