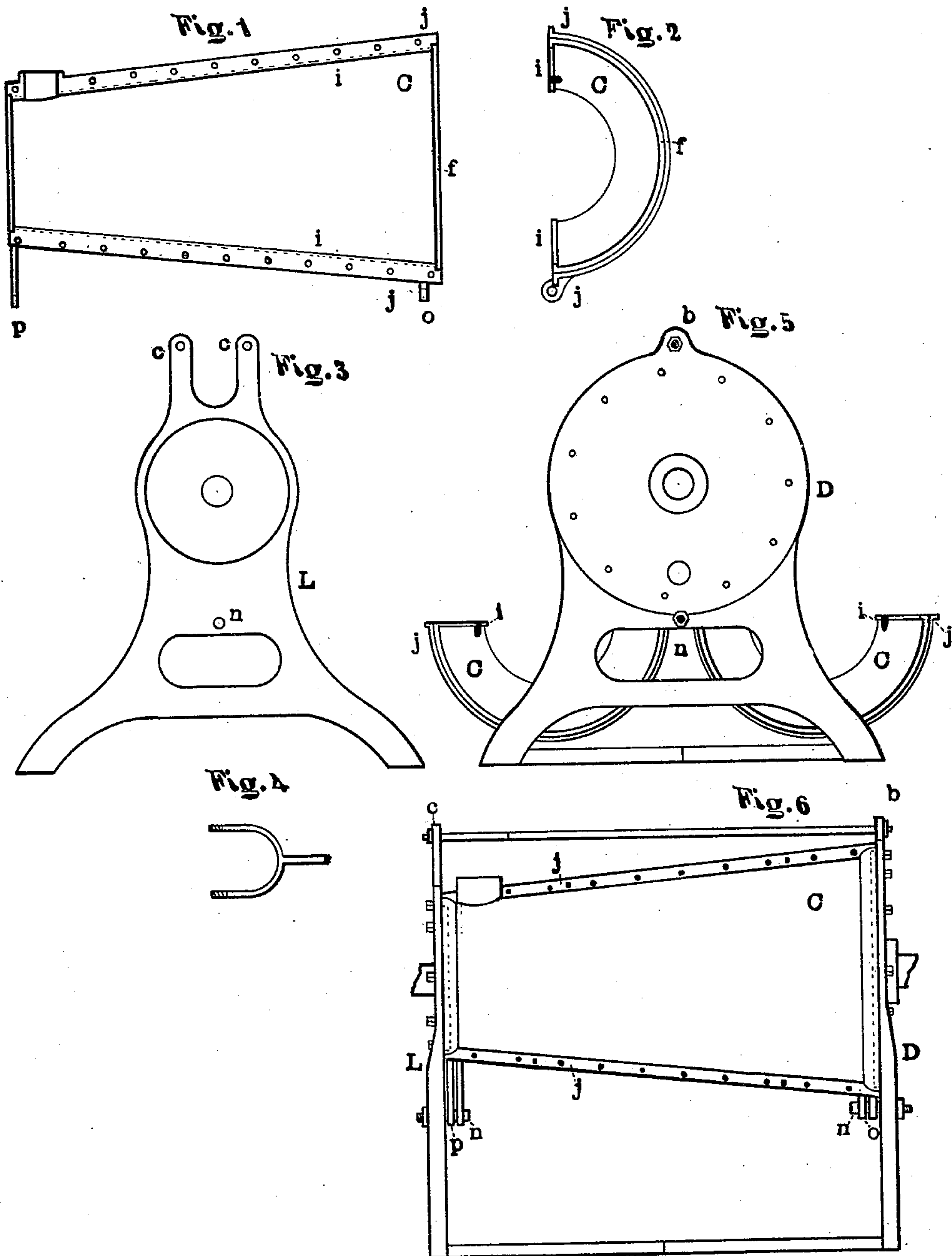


(No Model.)

G. DUNN & R. A. Le BARRON.
Beating Engines for Paper Pulp.

No. 233,839.

Patented Nov. 2, 1880.



Witnesses;

Mrs. Carrie Parker

Daniel Spencer

Inventors;

George Dunn

Russell A. Le Barron

By Allen Webster atty.

UNITED STATES PATENT OFFICE.

GEORGE DUNN AND RUSSELL A. LE BARRON, OF NORTH WILBRAHAM, MASS.

BEATING-ENGINE FOR PAPER-PULP.

SPECIFICATION forming part of Letters Patent No. 233,839, dated November 2, 1880.

Application filed September 24, 1880. (No model.)

To all whom it may concern:

Be it known that we, GEORGE DUNN and RUSSELL ASHER LE BARRON, both of North Wilbraham, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in the Construction of Beating-Engines for Paper-Pulp; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Our invention relates to that class of engine used in manufacturing paper-pulp, styled "beating" or "pulping" engine, more generally known as the "Jordan" engine.

The construction of beating-engines has heretofore been such that when repairs on the cone or inside of the shell were needed it became necessary to remove the pulley, unpack the boxes, remove the head, and withdraw the cone. This construction is therefore objectionable, for obvious reasons.

The object of our invention is to so construct the device that the inside can be easily gotten at without unpacking the boxes and removing or separating heavy parts; and our invention consists in the construction hereinafter described, and illustrated in the accompanying drawings, whereby the objectionable features of the present construction are done away with and the objects of our invention attained.

In the accompanying drawings, in which similar letters of reference indicate like parts, Figure 1 is a side view of one-half of the shell, and Fig. 2 is an end view of the same as seen from the large end. Fig. 3 is a view of the support and head for the smaller end of the shell. Fig. 4 is a view of one end of the upper girt or stay-rod. Fig. 5 is a view of the machine with the shell open as seen from the larger end, and Fig. 6 is a side view of the machine with the shell closed.

In beating-engines of this class the knives are held in place by wood wedging, and are allowed to project but a short distance above the surface. These knives or blades soon wear away, so that it becomes necessary to cut out the wedging as often as the knives wear down

to it. Heretofore it has been necessary to take the machine apart in order to get at the inside to cut out the wedging, or for any other purpose, and while cutting the wedging in the shell the operator is compelled to work, most of the time, in very uncomfortable positions, consuming much more time than would be the case could the parts be easily gotten at; and the cone and other parts being very heavy and difficult to handle, much time and labor are expended in taking the machine apart and getting it together again. Our method of construction is to separate the shell, or, in other words, construct it in two parts, the line of division being preferably perpendicular through the center, as shown in the drawings. The cone-shaft rests in the bearings in the heads, as heretofore; but, instead of the main supports being directly below the shell and the heads held in place and supported by the shell, we secure the heads and supports permanently together. This may be done by casting the whole in one piece or by constructing them separately and afterward securing them together. The latter method we deem the best. The heads project a short distance into the shell, as shown by dotted lines in Fig. 6. The ends of the shell are rabbeted to obtain a better joint, and the shell closes around the projecting parts of the heads, as shown. Each half of the shell is provided upon its lower side with projecting pieces, which bear upon studs in the supports. These act as hinges and allow each half to swing away from the cone and open, as shown in Fig. 5. This position allows the operative to work on the cone or inside of the shell with perfect freedom. The parts of the shell are fastened together with bolts or screws passing through the flanges upon the outside, (marked *j*.)

Upon the inside are the flanges *i*, against which the wedging bears or packs. As the joints may separate with difficulty after having been together some time, we provide one or more screws, which pass through one part and bear against the other, by the turning of which the parts are easily separated. When the shell is in position the heads are bolted to it in any convenient manner. The ends are held rigidly in place with heavy girders or braces below, which cross, and a stay-rod above, which en-

ters the parts *b* and *c c*, projecting above the ends. This rod is forked at one end to pass the feed-pipe, and forms a convenient place for the feed-box to rest upon.

5 We do not confine ourselves to the particular construction shown; but,

Having described our invention, what we do claim as new, and desire to secure by Letters Patent, is—

10 1. A beating-engine having the cone and heads supported independently of the shell, and having the shell in parts, substantially as shown.

15 2. A beating-engine having its shell constructed in parts, said shell being in combination with the cone and heads, substantially as shown, whereby the shell may be removed without separating the other parts of the machine.

20 3. In a beating-engine, the combination of a shell in two parts with heads having supports and the cone, substantially as shown.

25 4. The combination of the heads having supports, the girders, stay-rod, cone, and shell in parts, all constructed and operating substantially as set forth.

5. In a beating-engine, the shell in two parts and hinged, in combination with supports D

and L, whereby the shell may be swung away from the cone, substantially as shown. 30

6. In a beating-engine having the shell constructed in parts, the inside flanges, *i*, for a backing to wedge against, substantially as shown.

7. The combination of the heads having 35 shoulders or projections and the shell *b*, in parts having the rabbet *t*, substantially as and for the purposes stated.

8. The combination of the supports or stand- 40 ards having studs *n n* with the shell in parts, having projecting pieces which bear upon the studs, substantially as shown.

9. In a Jordan beating-engine, the shell constructed in parts, having outside flanges, *j*, 45 with bolts, as shown, in combination with the heads, cone, and supports, substantially as stated.

In testimony whereof we hereunto set our hands, in the presence of two witnesses, this 21st day of September, A. D. 1880.

GEORGE DUNN.

RUSSELL ASHER LE BARRON.

Witnesses:

CHARLES W. HUNTLEY,

WILLIAM G. MCINTYRE.