

(No Model.)

W. H. DOANE.
SAND PAPER MACHINE.

No. 273,970.

Patented Mar. 13, 1883.

Fig. 1

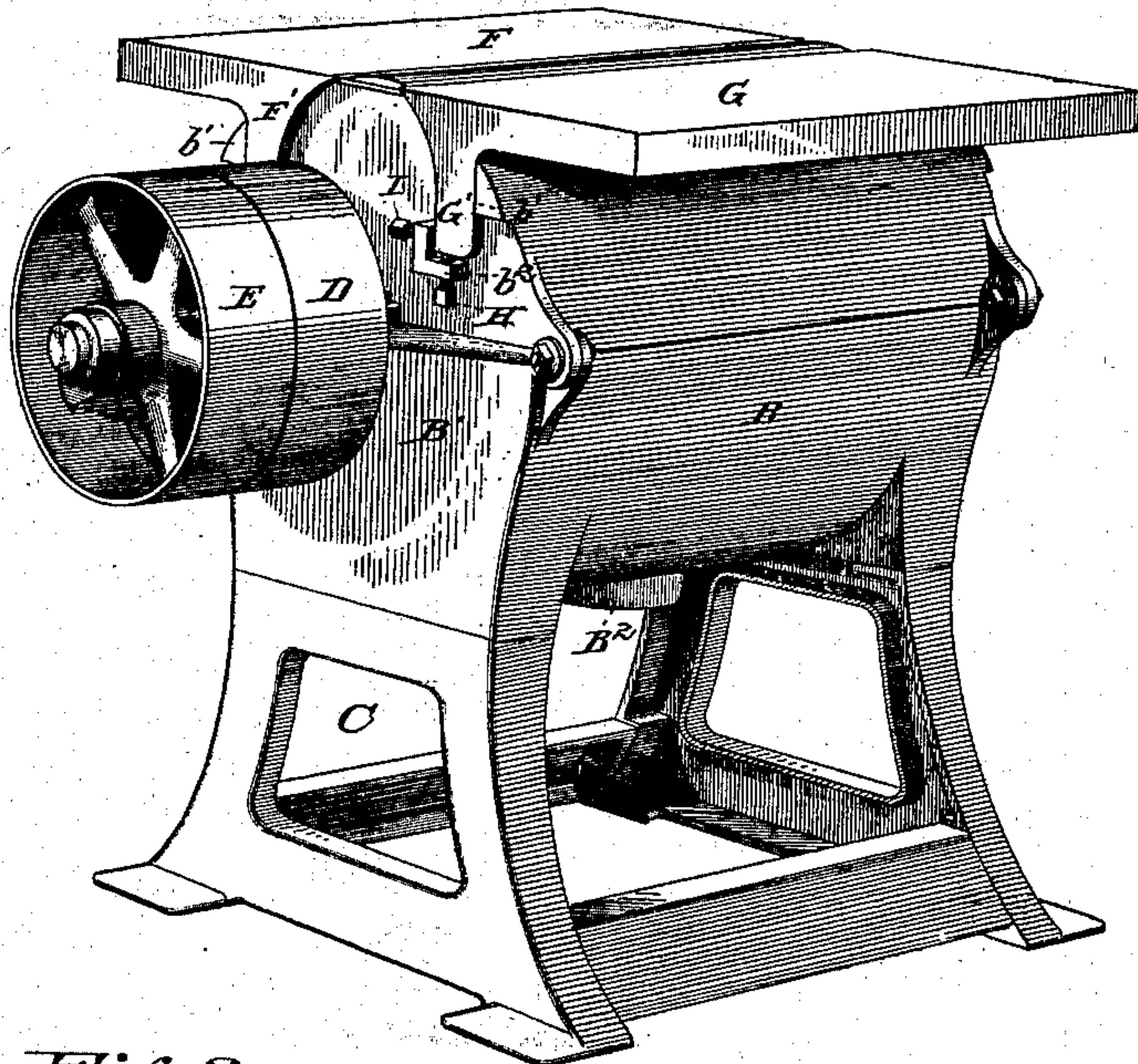


Fig. 2

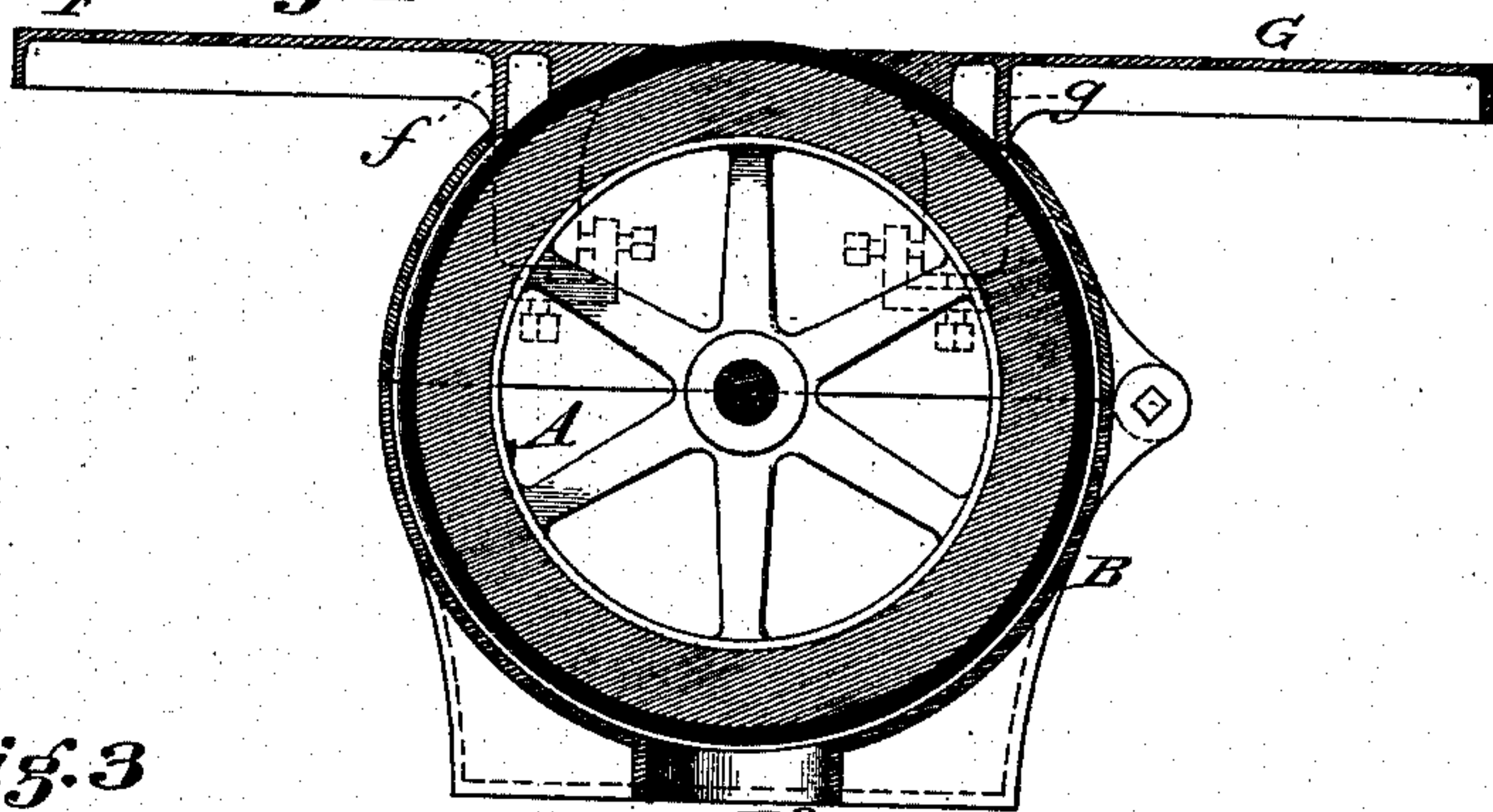
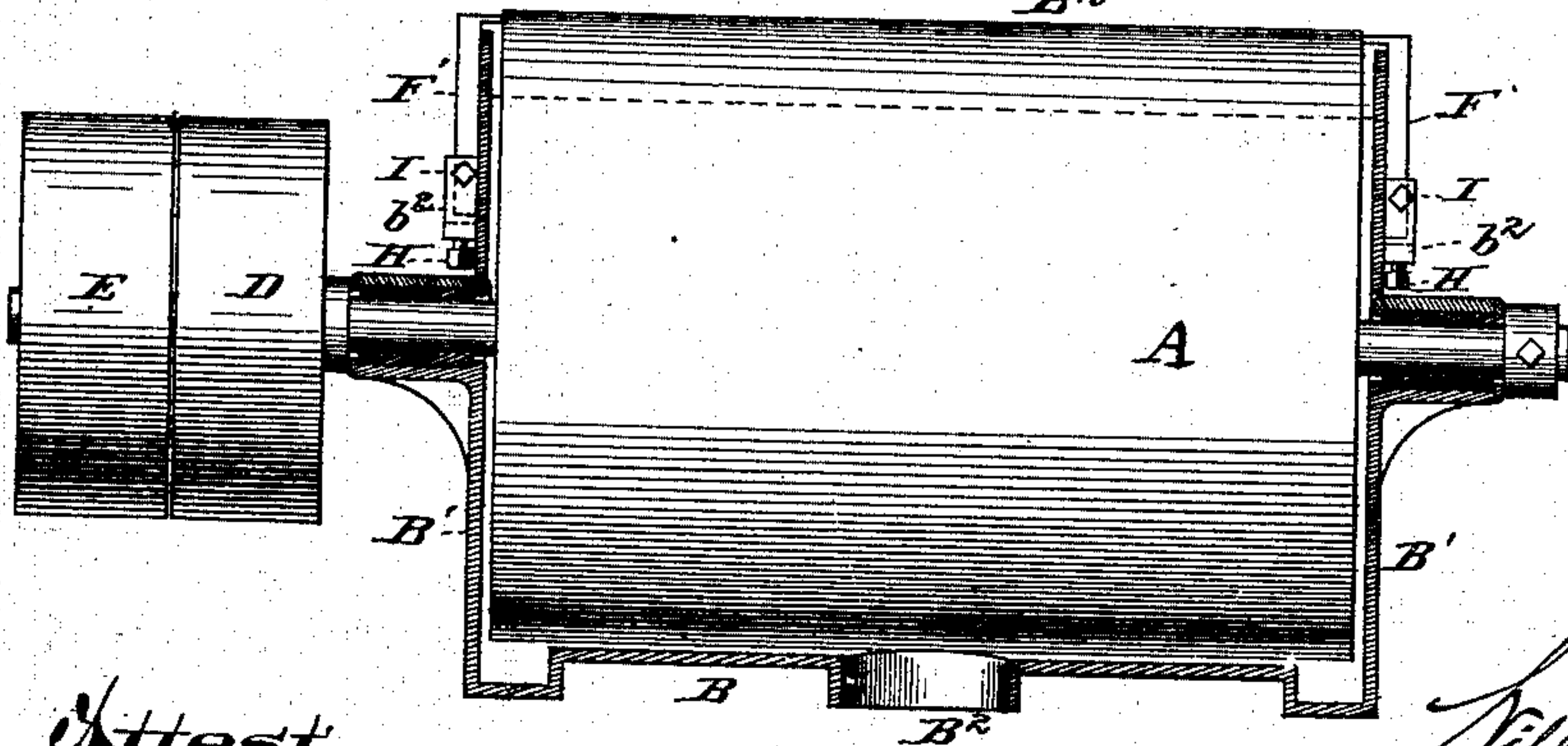


Fig. 3



Attest

A. M. Long.

E. F. Walker.

Inventor

William H. Doane

by his attorney

W. E. Eick.

UNITED STATES PATENT OFFICE.

WILLIAM H. DOANE, OF CINCINNATI, OHIO.

SAND-PAPER MACHINE.

SPECIFICATION forming part of Letters Patent No. 273,970, dated March 13, 1883.

Application filed June 28, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. DOANE, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Sand-Paper Machines; 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.

The object of this invention is to supply the need of a hand-feed sand-paper machine on which both straight and curved wood-work can be smoothed.

To this end the invention consists of a hand-feed sand-paper machine the sand-paper roll of which runs in a concentric casing or barrel provided with an open top or side for exposing a portion of the sand-paper roll. This construction admits of curved work being fed around the barrel over the exposed portion of the sand-paper roll.

The invention further consists in the combination, with such a machine, of removable tables which may be used in smoothing straight work.

It further consists of some details of construction.

In order that the invention may be clearly understood, I have illustrated in the annexed drawings and will proceed to describe the best form thereof at present known to me.

Figure 1 is a perspective view of the improved hand-feed sand-paper machine as it appears when the tables are mounted on it and the machine is in condition for operating on straight work. Fig. 2 is a longitudinal vertical section of the same. Fig. 3 is a vertical axial section thereof, the roll being in elevation. In both Figs. 2 and 3 the stand is omitted.

The same letters of reference indicate identical parts in all the figures.

The sand-paper roll A is journaled in bearings on the heads B' B' of the concentric casing or barrel B, which encircles it. The barrel B being but a little larger in diameter than the sand-paper roll A, is constructed with a large opening at the top or upper side for exposing a segment of the sand-paper roll. It will be readily observed that, in consequence of this

barrel shape of the encircling casing of the sand-paper roll, the concave of any curved piece of wood-work the curvature of which has a radius greater than that of barrel B may be smoothed or polished on this machine. The barrel is made in two sections, hinged together at *b b*, so that the upper section may be turned up and back to provide for convenient access to the sand-paper roll. The heads of the barrel cover the ends of the sand-paper roll completely, except at the very top, where a small portion of these heads is cut away, as shown in Figs. 1 and 3, to allow the upper portion of the sand-paper roll to project above them. The lower section of the barrel may either be cast in one piece with a stand, O, or cast separately and provided with sills by which it may be bolted either to a stand, like O, or to any other bench. In every case the stand is so formed that the barrel is unobstructed between the legs of the stand, so that curved work may move around the barrel to its open side for proper presentation of its concave side to the sand-paper roll. The lower section of the barrel is also constructed with a nozzle, B², for the attachment of the suction-pipe of a suction-fan by which the dust occasioned by sandpapering is drawn off. This nozzle is shown as situated at the barrel's mid-length, but may be located elsewhere in case the machine is to operate on curved work, with the proper manipulation of which the central nozzle would interfere. One of the journals of the sand-paper roll is elongated to receive the fast pulley D and loose pulley E.

In order that the machine may be used for smoothing or polishing straight work to the best advantage, removable flat tables F and G are provided. The tables are preferably made of iron and planed. Their edges and that portion of the bottom adjacent to the sand-paper roll are curved to conform to the contour of the latter, and just in rear of these curved surfaces they are provided with a rib, *f* and *g*, respectively, which enter the opening in the top of barrel B close to the edges of said openings, so that the principal indraft of air will be through the throat between the adjacent edges of the tables when the latter are on the machine. Each table is constructed at each end with a downwardly-pro-

jecting rigid arm, (marked F' and G', respectively,) the outer edges of which bear on retaining-lugs b' b' , formed on the heads of the barrel B. The lower ends of the arms F' and G' reach into angle seats b^2 , formed on the heads of the barrel, and are supported upon set-screws H, by which the tables may be conveniently adjusted up and down. Other set-screws, I, bear against the inner edges of said arm, by which the tables may be moved toward and away from the sand-paper roll. It will be observed that the tables are not fastened down, and that they may therefore be readily lifted off and as readily put on the machine.

The details of construction may be greatly varied without substantially changing the distinguishing characteristics of the machine summarized in the first and third claims. Thus the barrel need not be exactly concentric with the sand-paper roll. The means for supporting and adjusting the tables may be so constructed as to fasten the tables to the barrel.

Having thus described my invention, what I claim is—

1. A sand-paper machine the sand-paper roll of which runs in a barrel, which has an open side and is unobstructed between the legs of the stand, substantially as and for the purpose set forth, so that the concave side of curved work may be sandpapered on the machine.

2. A sand-paper machine the sand-paper roll of which runs in a barrel composed of two sections hinged together and unobstructed between the legs of the stand, the top section of the barrel being provided with an opening, all substantially as and for the purpose set forth.

3. The combination, substantially as before set forth, of the sand-paper roll, the barrel in which it runs having an open side and being unobstructed between the legs of the stand, and the removable tables whereby either straight work or the concave side of curved work may be sandpapered on the machine.

4. The combination, substantially as before set forth, of the sand-paper roll, the barrel in which it runs having an open side, and the removable tables constructed with ribs to enter the opening in the barrel near the edges thereof.

5. The combination, substantially as before set forth, of the table constructed with rigid downwardly-projecting arms, the barrel constructed with retaining-lugs and angle-seats, and the set-screws for adjusting the table.

In testimony whereof I affix my signature in presence of two witnesses.

W. H. DOANE.

Witnesses:

SIMEON HARRIS,
ALBERT N. SPENCER.