

(No Model.)

C. SMITH.

DANDY ROLL FOR PAPER MAKING MACHINES.

No. 329,601.

Patented Nov. 3, 1885.

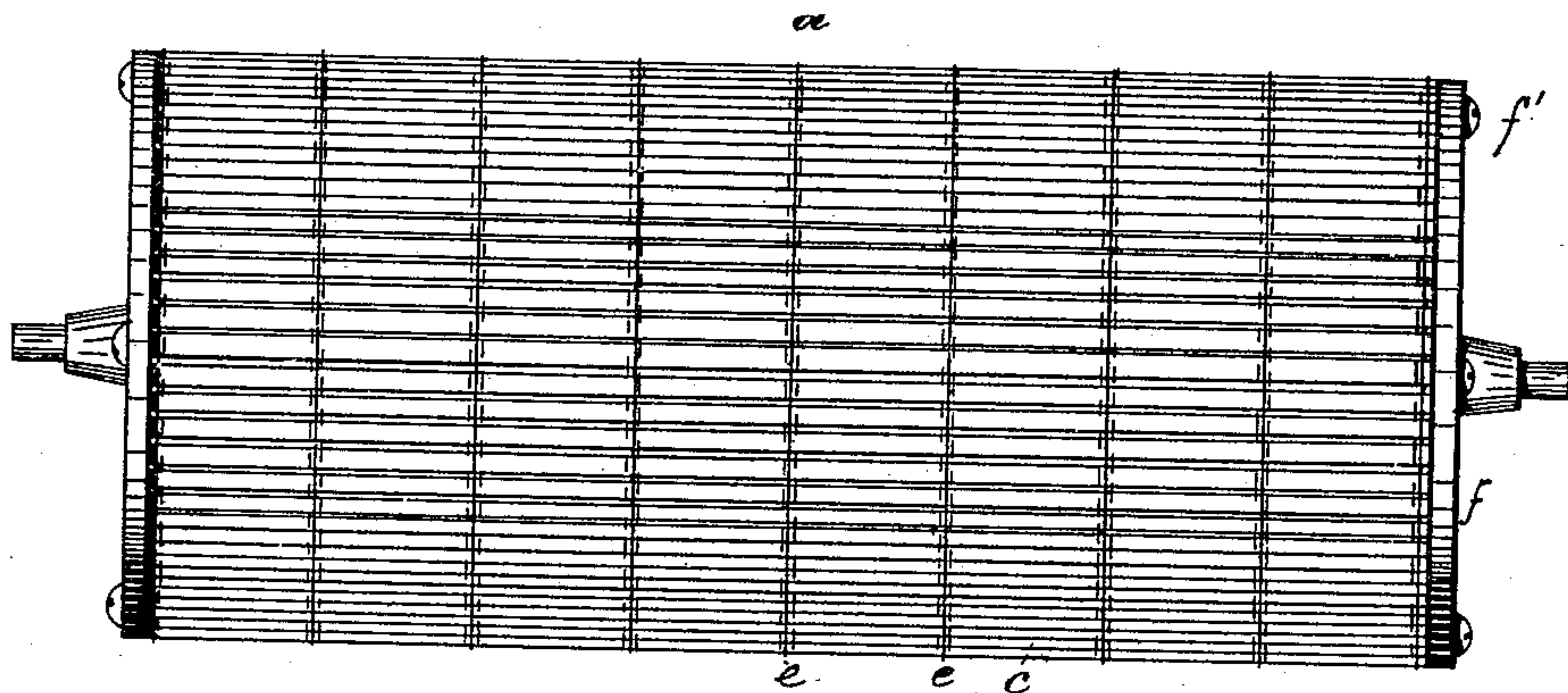


Fig. 1.

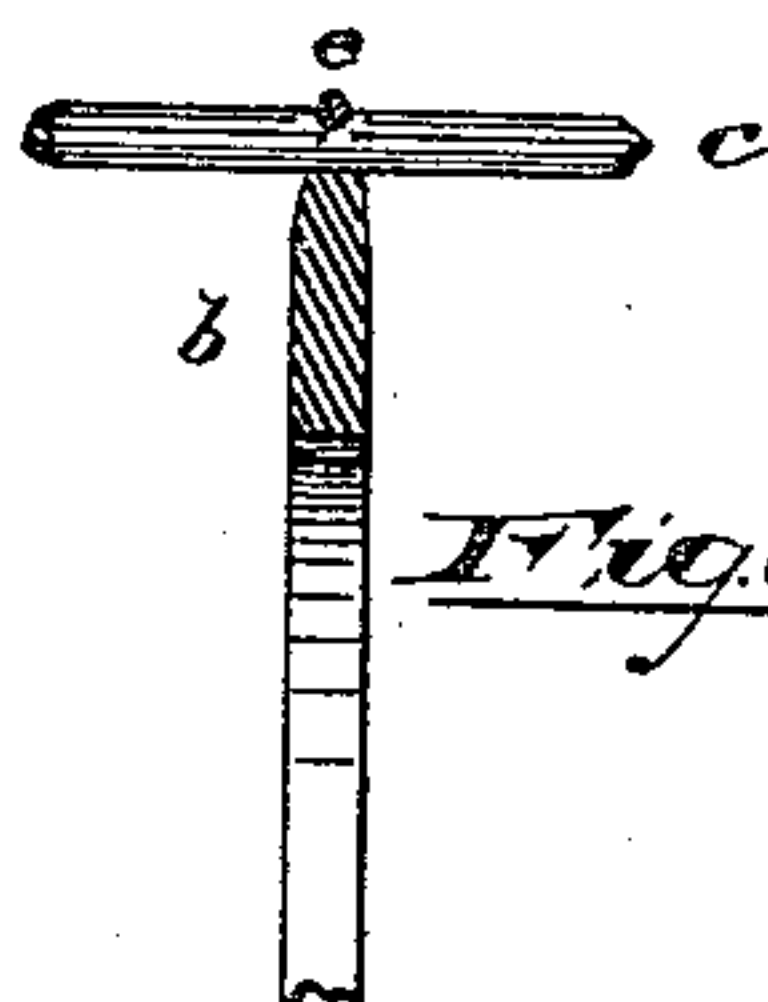
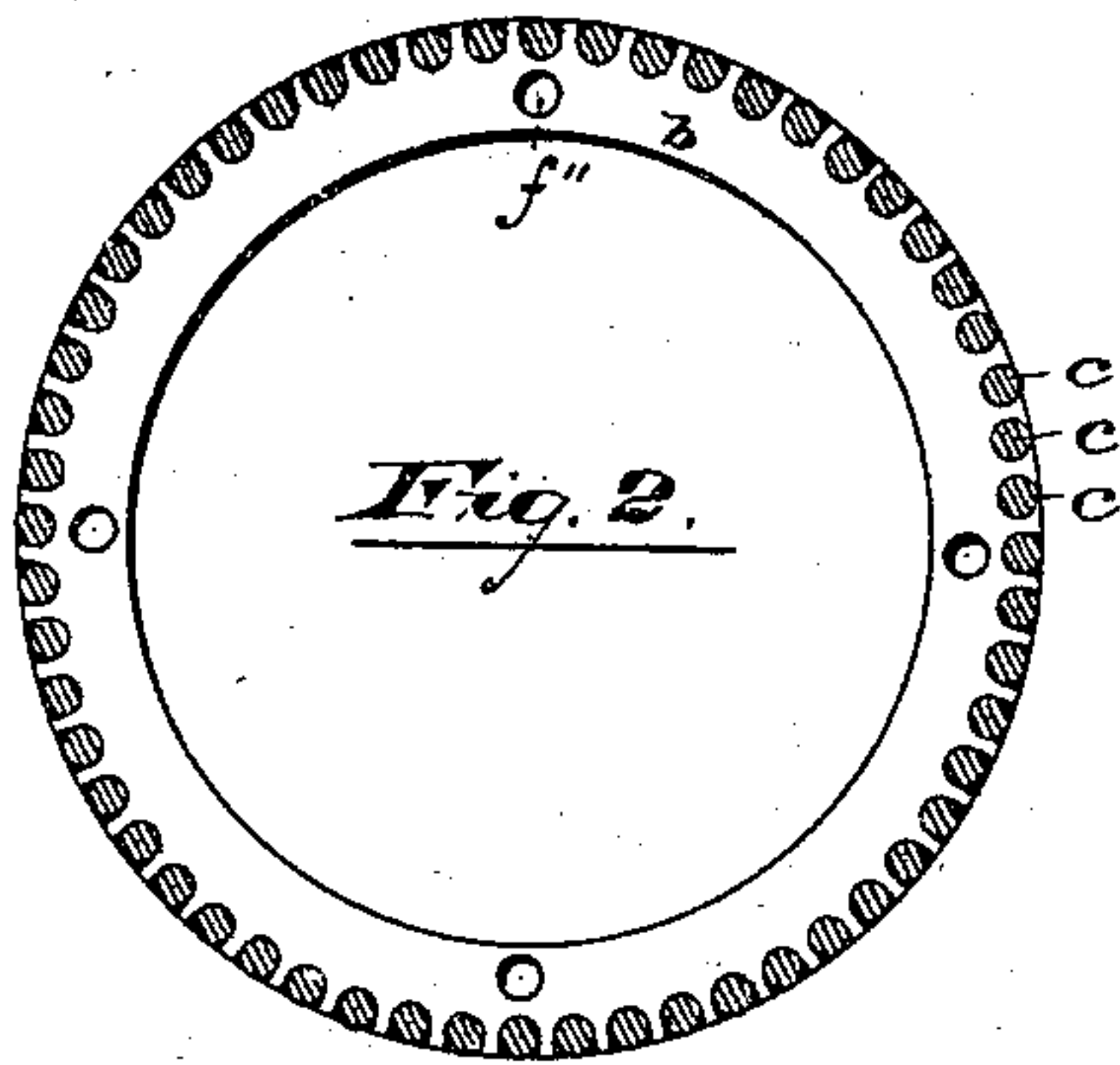


Fig. 3.

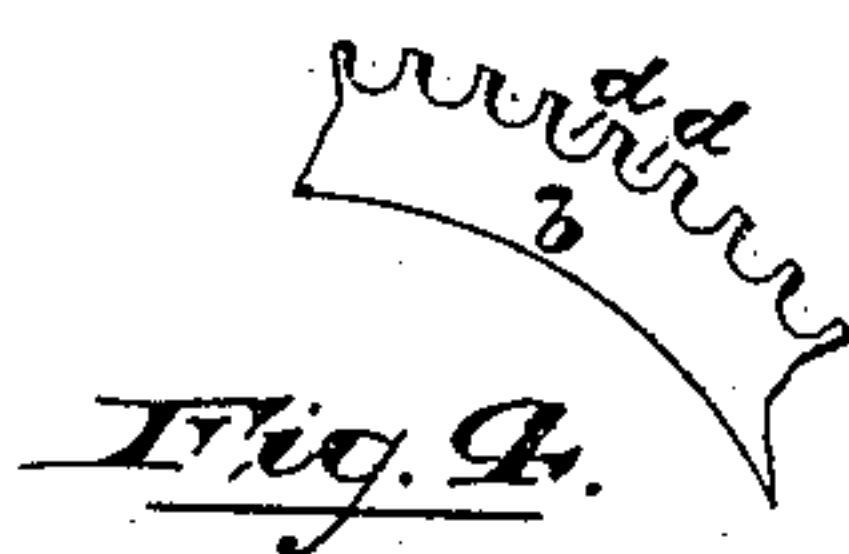


Fig. 4.

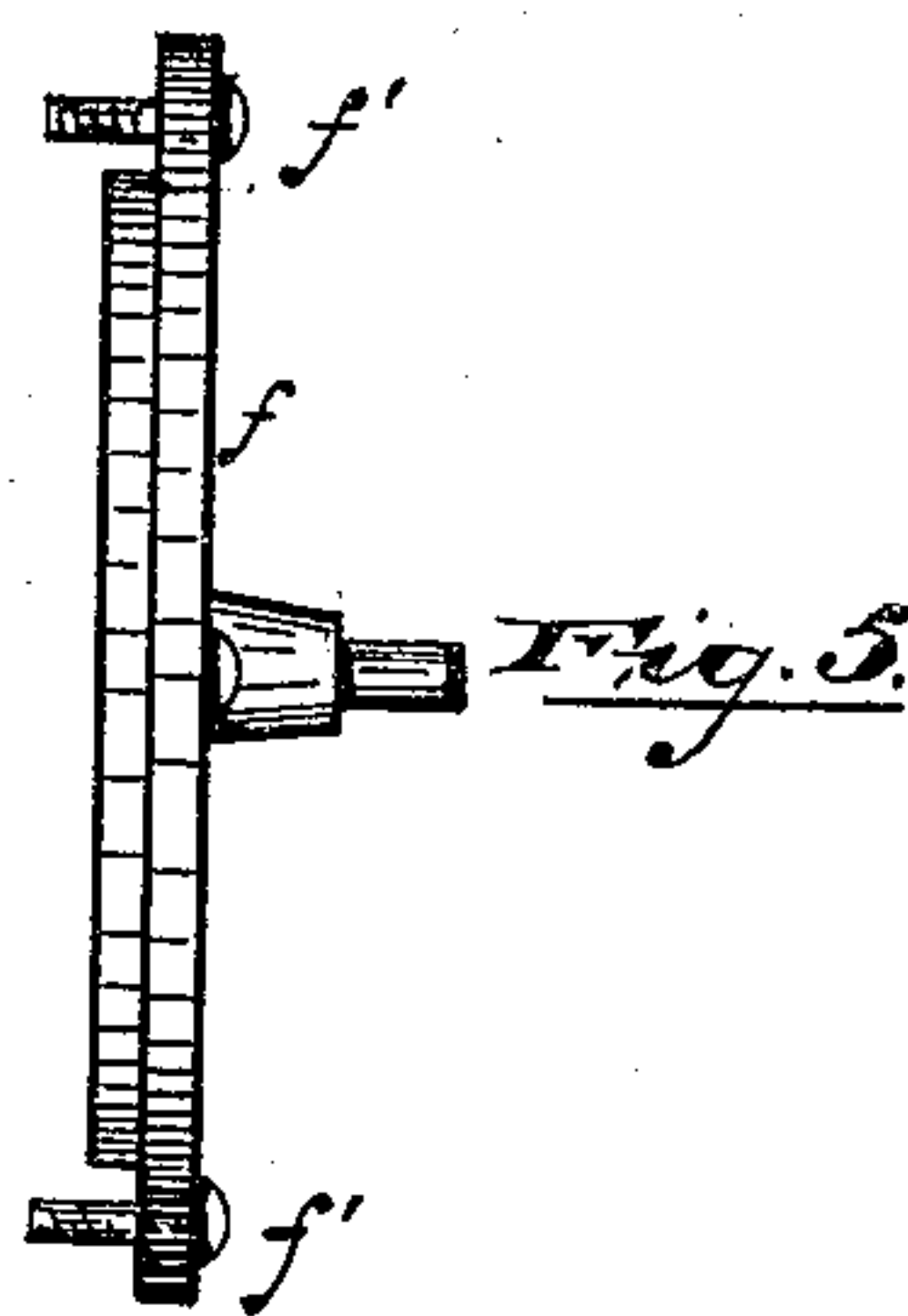


Fig. 5.

Attest:

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UNITED STATES PATENT OFFICE.

CHARLES SMITH, OF BELLEVILLE, NEW JERSEY.

DANDY-ROLL FOR PAPER-MAKING MACHINES.

SPECIFICATION forming part of Letters Patent No. 329,601, dated November 3, 1885.

Application filed April 9, 1885. Serial No. 161,695. (No model.)

To all whom it may concern:

Be it known that I, CHARLES SMITH, a citizen of the United States, residing at Belleville, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Dandy-Rolls for Paper-Making 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of of this specification.

The object of this invention is to secure increased strength and firmness in the dandy-roll, and to produce a more perfect mark in what known as "laid" paper.

The invention consists in the arrangements and combinations of parts, substantially as will be hereinafter embodied in the clauses of the claims.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in each of the several figures, Figure 1 is a plan of a dandy-roll having my improvements. Fig. 2 is a section of the same, taken through line *x*; and Figs. 3, 4, and 5, are views of certain parts in detail.

In said drawings, *a* indicates a dandy-roll having a series of rings, ribs, or disks, *b*. These are arranged at intervals throughout its length, and are peripherally notched, as at *d d* in Fig. 4, to receive longitudinal wires *c c*. The notches *d d* in the several disks lie in line in the series, so that the wires placed therein will lie straight and parallel from end to end to secure the usual and proper mark over the ground or surface of the paper. The wires *c* at their ends are secured, preferably by solder, to the end disks, rings, or plates, so that any endwise movement is prevented, while at intervals throughout their lengths said wires *c* are held into the notches by comparatively small transverse or circumferential wires *e e*, which make continuous projecting lines or ribs around the cylinder to make in the paper transverse marks of lighter shade. Said projecting and binding wires *e e* are preferably arranged at points approximately over the disks, the latter providing a firm bearing for the said wires. The longitudinal wires

are preferably indented to receive the transverse wires, as in Fig. 3. These said circumferential wires, sometimes known as "warp-wires," differ from those heretofore employed for a somewhat similar purpose, in that in the latter case two wires were used which passed alternately over and under the longitudinal or "filling" wire to inclose the same, and were twisted between each of the said filling-wires, thus holding the succession of wires together. By this prior construction the said twisted wires were liable to "lick up" the paper-pulp, so that the mark produced on the paper was made irregular thereby in form or outline and in its ability to transmit the light. In my improved construction the wire for binding the longitudinal wires are straight in comparison, and will not to the same extent lick up the pulp, and thus the paper, when held to the light, will present a more clearly defined and regular mark.

The construction described and hereinafter claimed has, in addition to the above, advantages of strength and firmness not possessed by the older constructions referred to, and, withal, can be manufactured at reduced cost.

I am aware that changes may be made in the construction of the dandy-roll departing from that set out in the drawings; and I do not wish to be understood as limiting myself to such construction, or to positive expressions employed in describing the same in the specification. To the end ribs may be secured removable journal-heads *f f*. These may be secured to the end disks by bolts or screws *f' f'*, the said end disks being provided with suitable perforations, *f''*, to receive said bolts. The longitudinally-arranged wires are preferably soldered at their ends to the end disks to prevent any longitudinal motion or displacement.

What I claim as new is—

1. In a dandy-roll, a series of peripherally-notched ribs having longitudinal wires arranged and held therein, substantially as and for the purposes set forth.

2. In a dandy-roll for paper-making, the notched ribs, longitudinal wires, and removable heads, arranged and combined as set forth.

3. In combination, a series of peripherally-notched ribs or disks, wires arranged in the

notches thereof, projecting binding-wires, and journal-heads secured to the end ribs.

4. In combination, peripherally-notched ribs, wires laid in the notches of said ribs, circumferential wires, and journal-heads, substantially as set forth.

5. In combination, notched ribs and notched longitudinal wires laid in the notches of said ribs, and transverse projecting wires laid on the notches of said longitudinal wires.

In testimony that I claim the foregoing I have hereunto set my hand this 3d day of April, 1885.

CHARLES SMITH.

Witnesses:

CHARLES H. PELL,
FREDK. F. CAMPBELL.