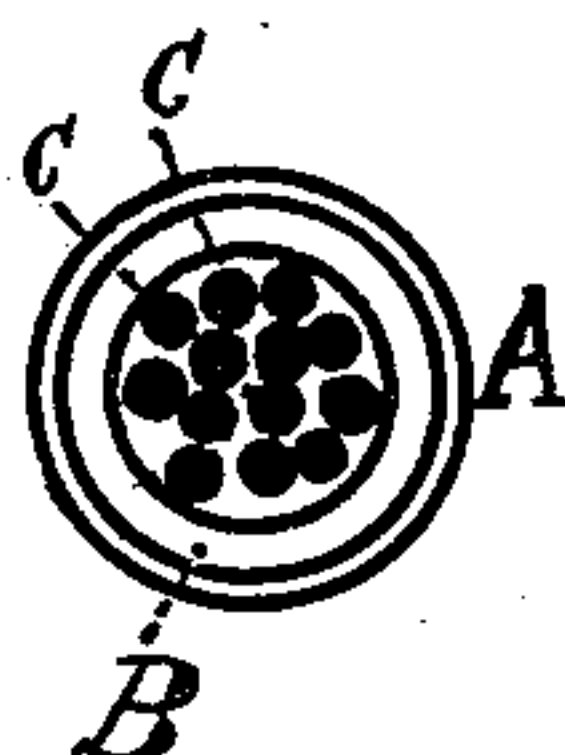


A. F. GERALD.

WHIPS.

No. 193,864.

Patented Aug. 7, 1877.



Witnesses  
Chas W. Clement  
Dan C. Robinson

Inventor  
Amos F. Gerald  
By W. F. Choate  
his atty.

# UNITED STATES PATENT OFFICE.

AMOS F. GERALD, OF AUGUSTA, ASSIGNOR OF ONE-HALF HIS RIGHT TO  
JOTHAM P. NORTON, OF LEWISTON, MAINE.

## IMPROVEMENT IN WHIPS.

Specification forming part of Letters Patent No. **193,864**, dated August 7, 1877; application filed  
March 19, 1877.

*To all whom it may concern:*

Be it known that I, AMOS F. GERALD, of Augusta, in the county of Kennebec and State of Maine, have invented a new and useful Improvement in Whips, which improvement is fully set forth in the following specification, reference being had to the accompanying drawing.

The object of my invention is to furnish a substitute for whalebone in whips, and to make a whip which shall be strong, heavy, elastic, and durable, and very cheap to manufacture.

In the drawing, which is a sectional view of a whip with my invention applied, A is the outside or covering of the whip. B is the rattan or other substance usually used in whips.

C C, &c., are small spring-wires, made of brass, iron, steel, or other suitable metal, and running entirely or part way through the center of the whip.

The whip is constructed in the ordinary manner, with the exception of the substitution of wire for whalebone or other material to strengthen the whip and make it elastic and heavy.

The wire is made or can be made either

round, square, or of any shape which is convenient for use, and may be twisted singly, or the whole bundle of wire may be twisted to give strength to the whip.

The number of wires at or near the butt-end of the whip corresponds to or is governed by the size of the whip to be made, and as the whip decreases in size the wires decrease in number or size (as they may be made smaller at one end than the other) until at the other end there is but one or more wires.

The wire is spring-wire, that will not break, and will, after being bent, spring into position and keep the whip straight.

The wire, if necessary, may be covered with rubber or other material to protect it from moisture and rust.

I claim—

A whip having a core composed of a number of small wires, the wires being greater in number or larger in size at the butt, and decreasing in number toward the tip.

AMOS F. GERALD.

Witnesses:

W. S. CHOATE,

CHAS. W. CLEMENT.