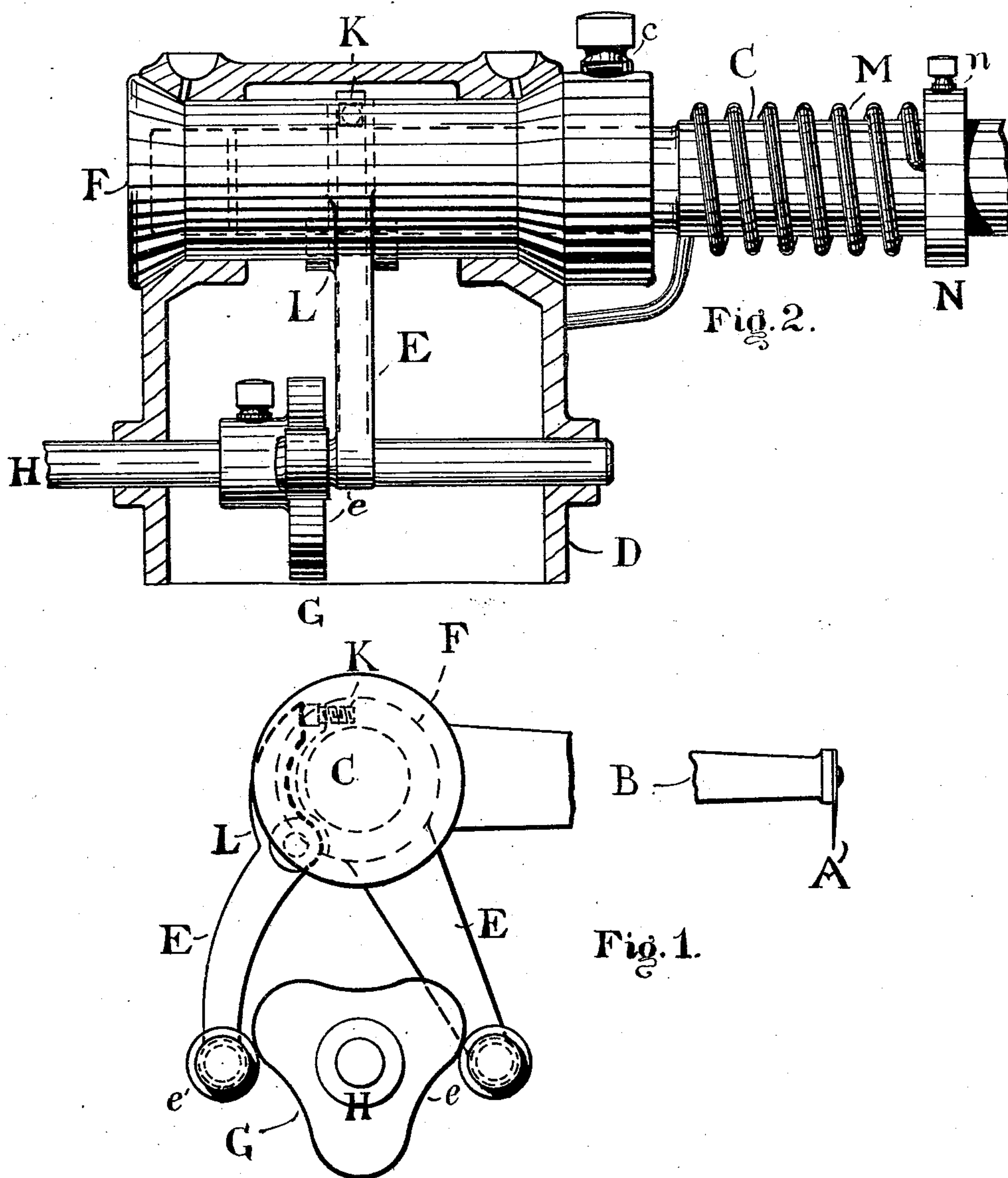


(No Model.)

H. & H. A. STONE.
Mechanism for Operating Doffer Combs of Carding
Machines.

No. 243,650.

Patented June 28, 1881.



Witnesses:

J. B. Woodworth.
Edward F. Tolman.

Inventors.

H. Stone.
by their Atty. *H. A. Stone.*
J. G. Arnold

UNITED STATES PATENT OFFICE.

HARLEY STONE AND HARLEY A. STONE, OF WORCESTER, MASSACHUSETTS,
ASSIGNORS OF ONE-THIRD TO MYRON A. EARLE, OF SAME PLACE.

MECHANISM FOR OPERATING DOFFER-COMBS OF CARDING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 243,650, dated June 28, 1881.

Application filed October 15, 1880. (No model.)

To all whom it may concern:

Be it known that we, HARLEY STONE and HARLEY A. STONE, citizens of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have
5 invented certain new and useful Improvements in Mechanism for Operating the Doffer-Combs of Carding-Machines; and we do hereby declare that the following is a full, clear, and
10 exact description of 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 an improved means
15 for giving the vibratory motion to the doffer-comb of a carding-machine; and the invention consists, essentially, of a double lever, one arm whereof is pivoted and the other fixed immovably to a hollow hub which receives the end
20 of the comb-shaft, the lower ends of both arms being provided with friction-rollers, adapted to be operated by a cam upon the driving-shaft, and whereby a vibratory motion is imparted to the comb.

25 It also consists in the construction and arrangement of the said lever and its driving-cam at the center of the stand which supports and carries the comb-shaft, whereby the weight of said shaft and comb is balanced, all as will
30 be hereinafter more fully described, and pointed out in the claims.

Figure 1 is an end view of the devices embodying our invention, showing also the comb and the arm carrying the same, part of the
35 latter being broken away. Fig. 2 is a side view of the invention in operative connection with the comb-shaft and other parts immediately connected therewith, the stand or frame being shown in section.

40 Similar letters of reference indicate like parts in both figures.

Referring to the drawings, D represents the stand or frame which supports and carries the several parts.

45 F represents a hollow hub adjusted in said frame, and adapted to receive one end of the comb-shaft C, which is adjusted therein by

means of the set-screw *c* on one end of said hub F, as shown.

B represents one of the arms carrying the
50 comb A, as in the usual manner. Connected to the central part of the hollow hub F is the double lever E, composed of two arms, one of which is fixed immovably to the said hub and provided with a friction-roller, *e*, at its lower
55 end, while the other arm is pivoted to said hub, as shown at L, and adapted to be adjusted by the set-screw K, so as to increase or diminish the stroke of the lever-arms to regulate the motion of the doffer-comb A, said arm
60 being also provided with a friction-roller, *e'*, at its lower end.

G represents a cam fitting between the rollers *e e'* of the lever E, and which is connected
65 to the driving-shaft H, journaled in the lower part of the stand D, said cam being provided with one or more swells, so arranged that when one swell is under one roller a depression is at the other roller, and vice versa.

M represents a spiral spring on the shaft C, 70 which is held in place at one end to the collar N, adjusted upon said shaft by set-screw *n*, and at the other end to the frame or stand D, as fully shown in Fig. 2, whereby the weight of the comb A and its arm is counteracted
75 and made capable of a smooth easy motion.

The construction of our invention being as described, it will be observed that in the operation of the same the cam G is revolved by
80 the driving-shaft H, thereby operating the arms of the lever E on the shaft C, whereby a vibratory motion is imparted to the comb A, the length of its stroke being regulated by the set-screw K on the pivoted arm of the
85 said lever E.

Having thus described our invention, what we claim as new and useful is—

1. The combination, with the frame D, comb-shaft C, hollow hub F, and set-screw K, of the double lever E, having two arms, one of which
90 is pivoted and the other fixed immovably to the said hub F, which is connected to the shaft C by set-screw *c*, said arms being provided with friction-rollers *e e'*, which engage

with the cam G on driving-shaft H, to impart a vibratory motion to the comb A, substantially as specified.

5 2. The hollow hub F, provided with the lever E, one arm of which is formed stationary with the said hub, and the other arm pivoted thereto, and the set-screw K, in combination with the comb-shaft C, substantially as and for the purpose specified.

3. The adjustable screw K and pivot L, in combination with the double lever E and hollow hub F, substantially as specified.

HARLEY STONE.

HARLEY A. STONE.

Witnesses:

JOHN RYAN,

J. G. ARNOLD.