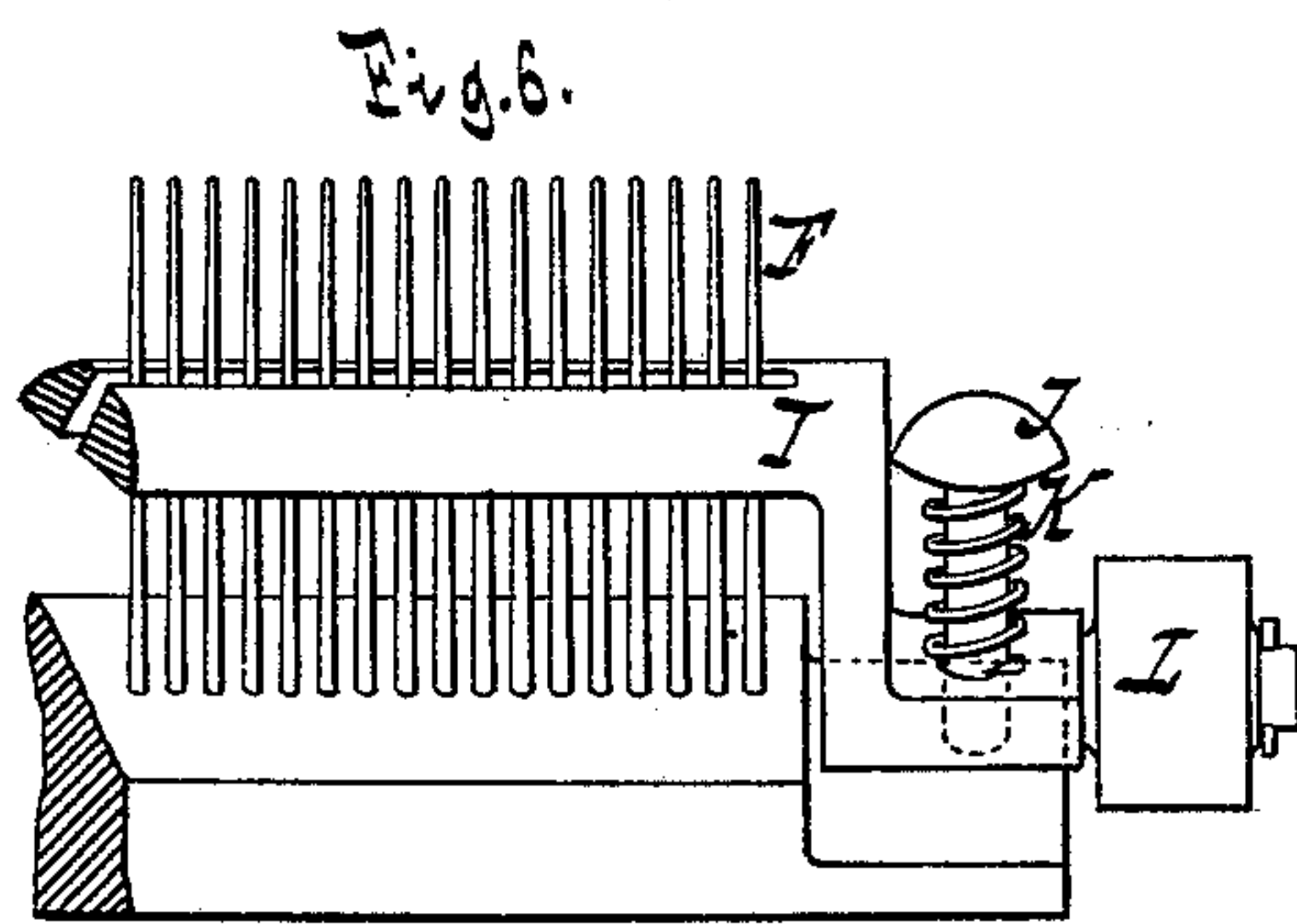
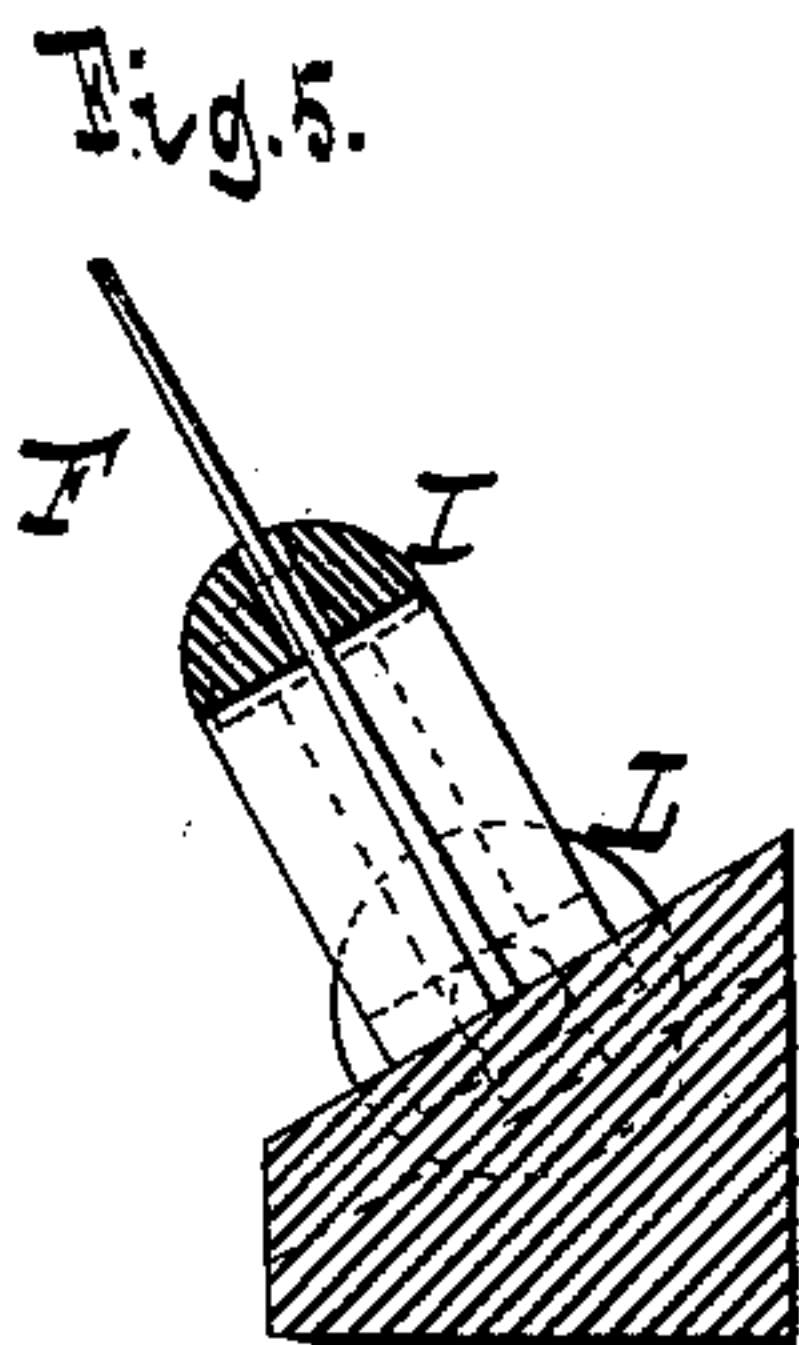
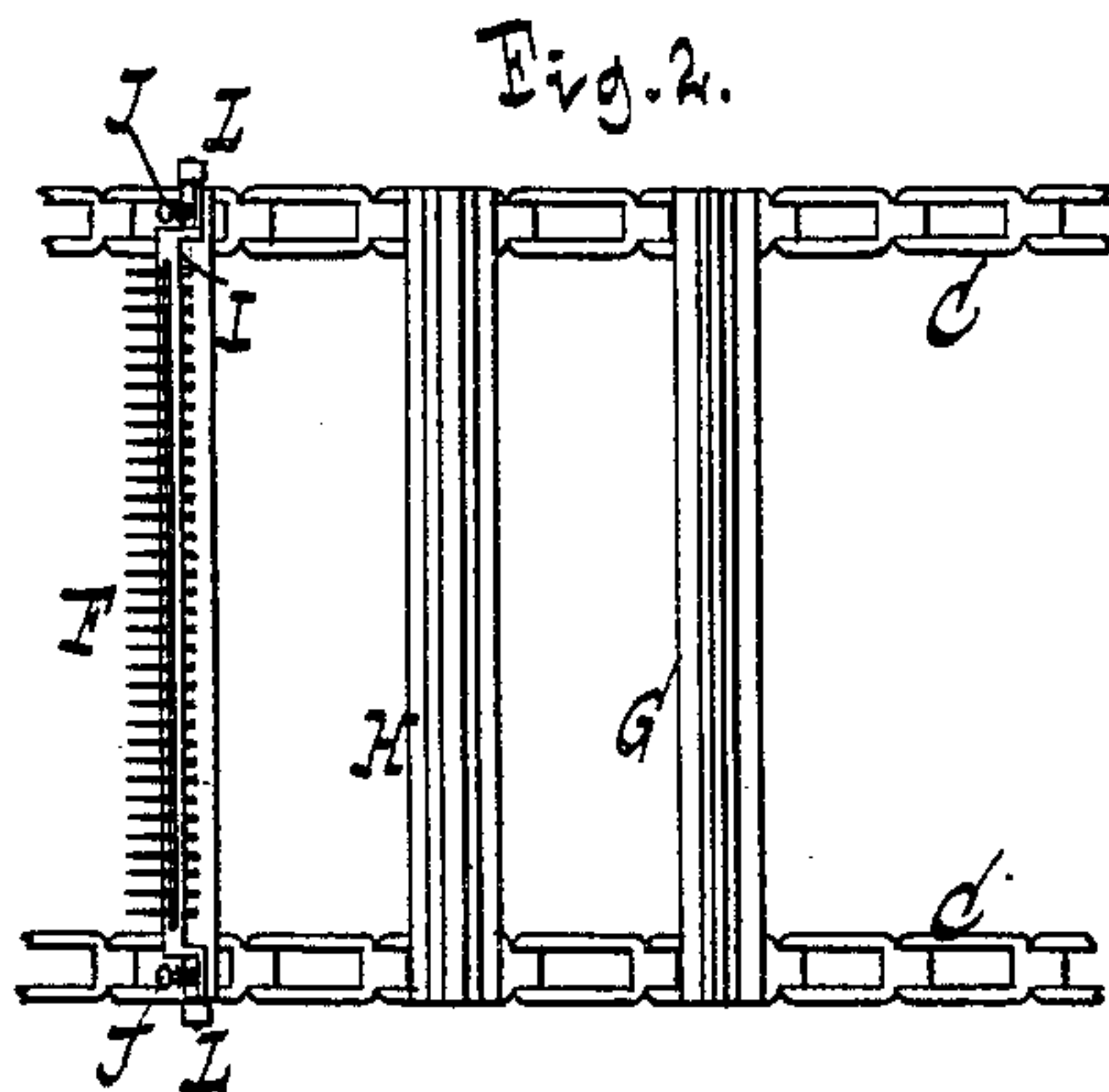
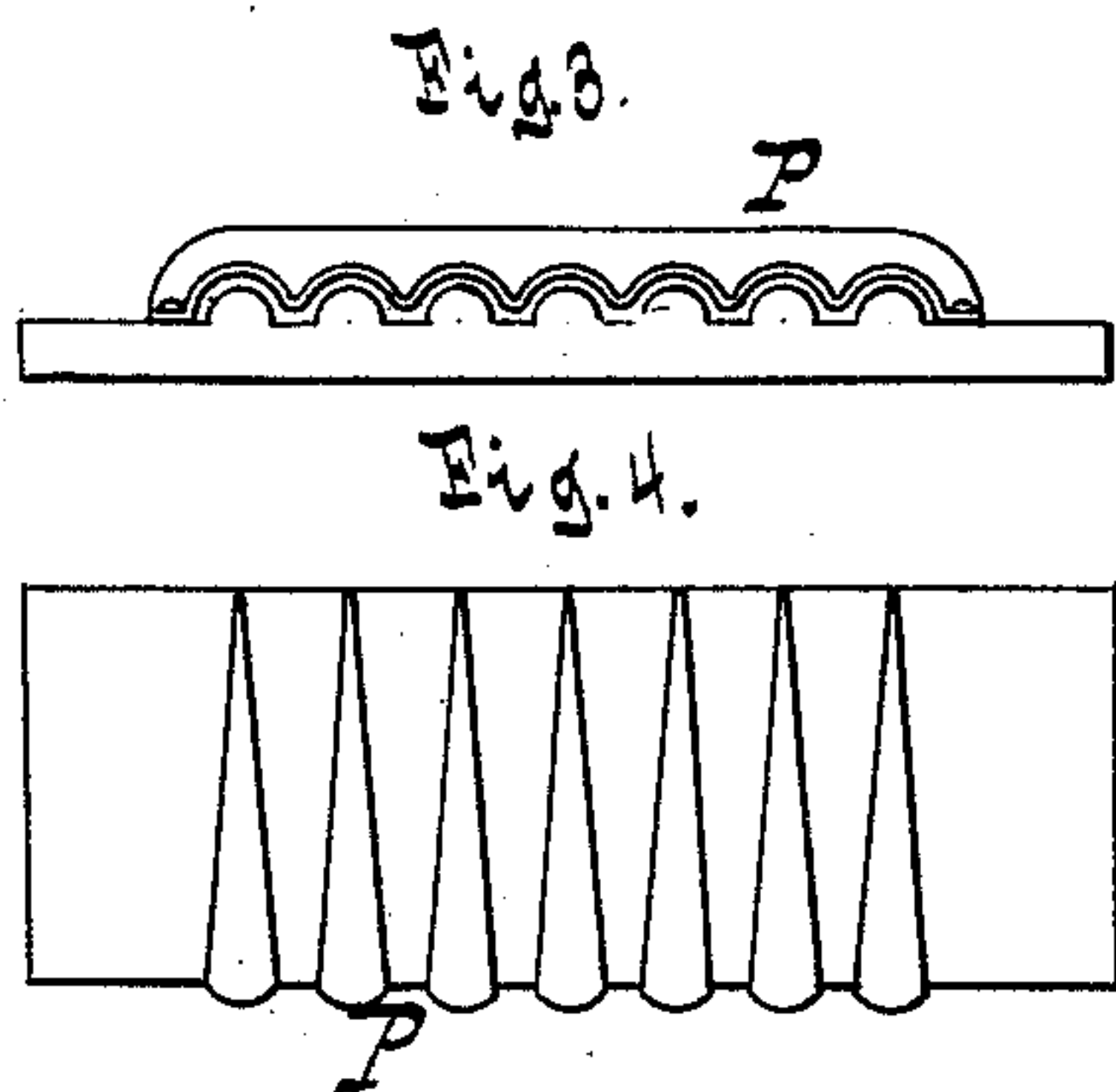
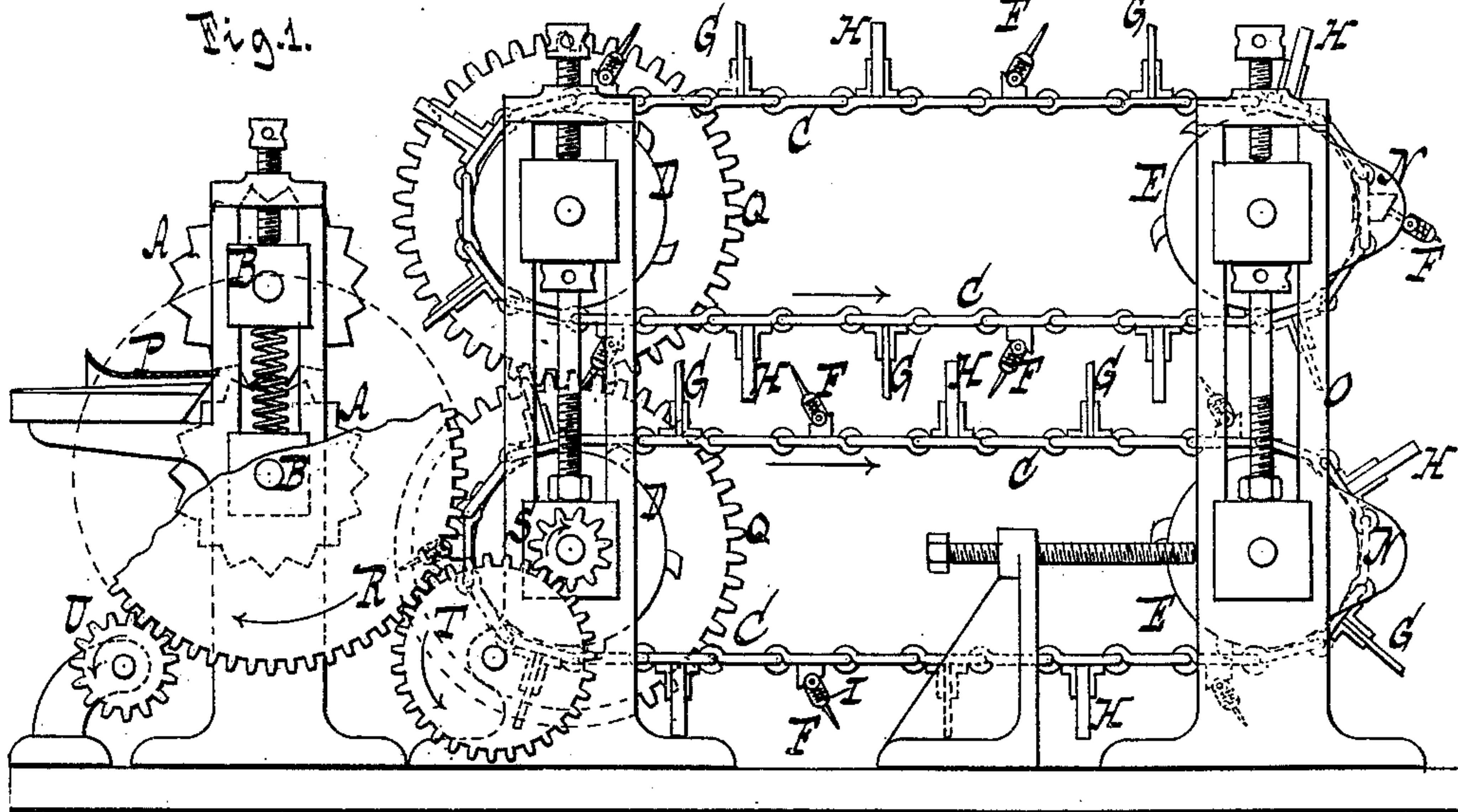


(No Model.)

J. H. BROWN.
Machine for Disintegrating and Decortivating
Fibrous Plants.

No. 233,976.

Patented Nov. 2, 1880.



Witnesses
Otto Hufeland
William Miller

Inventor.
John Henry Brown by
Vansantons & Hauff
his attys

UNITED STATES PATENT OFFICE.

JOHN H. BROWN, OF NEW YORK, N. Y.

MACHINE FOR DISINTEGRATING AND DECORTICATING FIBROUS PLANTS.

SPECIFICATION forming part of Letters Patent No. 233,976, dated November 2, 1880.

Application filed September 11, 1880. (No model.)

To all whom it may concern

Be it known that I, JOHN HENRY BROWN, a citizen of the United States, residing at New York, in the county and State of New York, have invented new and useful Improvements in Machines for Disintegrating and Decorticating Fibrous Plants, of which the following is a specification.

This invention relates to machinery for treating the leaves and other parts of fibrous plants; and it consists in certain novel combinations of parts, hereinafter fully described, and pointed out in the claims.

This invention is illustrated in the accompanying drawings, in which—

Figure 1 represents a side view, partly in section. Fig. 2 is a plan or top view of a portion of the endless carriers. Fig. 3 is a front view of the spreader. Fig. 4 is a plan or top view thereof. Fig. 5 is a cross-section of the combs on the endless carriers. Fig. 6 is a front view thereof.

Similar letters indicate corresponding parts.

The letters A A designate two feed-rollers mounted on shafts B B, to revolve in superficial contact with each other, the surfaces of such rollers being preferably serrated, and C C designate two endless carriers arranged opposite to each other on wheels D D E E, for receiving between them the leaves or other parts introduced to the feed-rollers. In this example the endless carriers C C occupy horizontal planes, and consist, respectively, of two chains in connection with devices for producing the desired action of the carriers, while the wheels D D E E are constructed to engage the chains.

The devices for producing the action of the endless carriers C C consist of combs F, scrapers G, and wipers H, which are arranged to alternate with each other upon the carriers, the same extending transversely thereto, and being mediums for connecting the chains, as clearly shown in Fig. 2.

The endless carriers C C are driven with a greater velocity of motion than the feed-rollers A A, and, with the opposed portions thereof, traveling in like directions, as indicated by arrows in Fig. 1, so that if a fibrous leaf is inserted between the feed-rollers it is caught by or between the carriers and drawn with them away from the feed-rollers, which thus

have a tendency to retard the progress of the leaf. In this manner the leaf is exposed to the action of the combs F, which separate or divide its integrant fibers; also to that of the scrapers G, whereby it is divested of its exterior coating, and to that of the wipers H, which remove sap and dust, both sides of the leaf being thus acted upon.

The combs F are preferably constructed with inclined teeth, and are so arranged that when brought between the endless carriers C C the direction of their inclination is toward the feed-rollers, for the purpose of obviating the liability of tearing the leaf by the teeth.

The scrapers G consist of strips of sheet metal or other rigid material, while the wipers H consist of strips of india-rubber or other elastic material, substantially equal heights being given to the scrapers, the wipers, and the combs.

The combs F are provided with clearers I, to free the same of fiber at appropriate intervals or places, such clearers consisting of bars flanking the teeth of the combs, and being arranged to move on guide-rods J J, projecting from the combs at their opposite ends. On the guide-rods J J are arranged springs K K, which act on the clearers I with a tendency to retain the same in an inner position, and on the opposite ends of the clearers are mounted roller-studs L L. These roller-studs L L are exterior of the edges of the endless carriers C C, as shown in Fig. 2, and in the path thereof are located cams N N, (see Fig. 1,) whereby the clearers I are thrown outward against the action of the springs K K at the delivery end of the machine. The cams N N are fixtures of standards O O, which support the bearings for the shafts of the carrier-wheels E E.

With the feed-rollers A A is combined a spreader, P, for introducing the leaves to such rollers. The function of this spreader P is to insure a smooth or unfolded condition of the leaves passing between the feed-rollers A A; and in this example the spreader consists of a throat having a corrugated cross-section, as shown in Fig. 3, so that if a leaf is inserted into such throat and is drawn through it by the action of the feed-rollers it is bent or spread in an effective manner.

A suitable mechanism is used to drive the

endless carriers C C with the proper speed relatively to the feed-rollers; and in this example the wheels D D of the endless carriers are geared together by cog-wheels Q Q, and one of such wheels is also geared with a cog-wheel, R, fixed to one of the feed-wheel shafts B B through a pinion, S, and wheel T, while the wheel R is geared with a driving-wheel, U, for producing the required motions.

10 It may be remarked that by serrating or corrugating the feed-rollers A A they act also as manglers to expel the sap from the leaves.

The tension on the leaves can be regulated by changing the distance between the endless carriers C C; and to this end I make the bearings for the carrier-wheels D D E E adjustable.

By constructing the endless carriers C C of chains I gain the advantage that the dirt or other matter detached from the leaves is allowed to fall through between the chains to the ground without being carried along to the end of the machine.

What I claim as new, and desire to secure by Letters Patent, is—

25 1. The endless carriers arranged opposite to each other on suitable wheels, and constructed with the alternating combs F, scrapers G, and wipers H, in combination with feed-rollers and a driving mechanism, the whole adapted to operate substantially as described.

30 2. The combination, with the endless car-

riers provided with a series of fixed transverse combs, F, of the clearer-bars I, flanking the teeth of the combs, and mechanism for moving said clearer-bars inwardly and outwardly over the teeth at proper intervals, substantially as described, for the purpose set forth. 35

3. The combination, with the combs F upon the endless carriers, and the clearers flanking the teeth of the combs, of springs for retaining the clearers in an inner position, roller-studs mounted on the opposite ends of the clearers, and cams arranged in the path of the roller-studs to throw the clearers outward against the action of the springs at appropriate intervals, the whole adapted to operate substantially as described. 40 45

4. In combination with the feed-rollers, a spreader for introducing the leaves to such rollers, constructed and operating substantially as described. 50

5. In combination with the feed-rollers, a spreader consisting of a throat having a corrugated cross-section, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses. 55

JOHN H. BROWN.

Witnesses:

J. HERMANN WAHLERS,
E. F. KASTENHUBER.