

(No Model.)

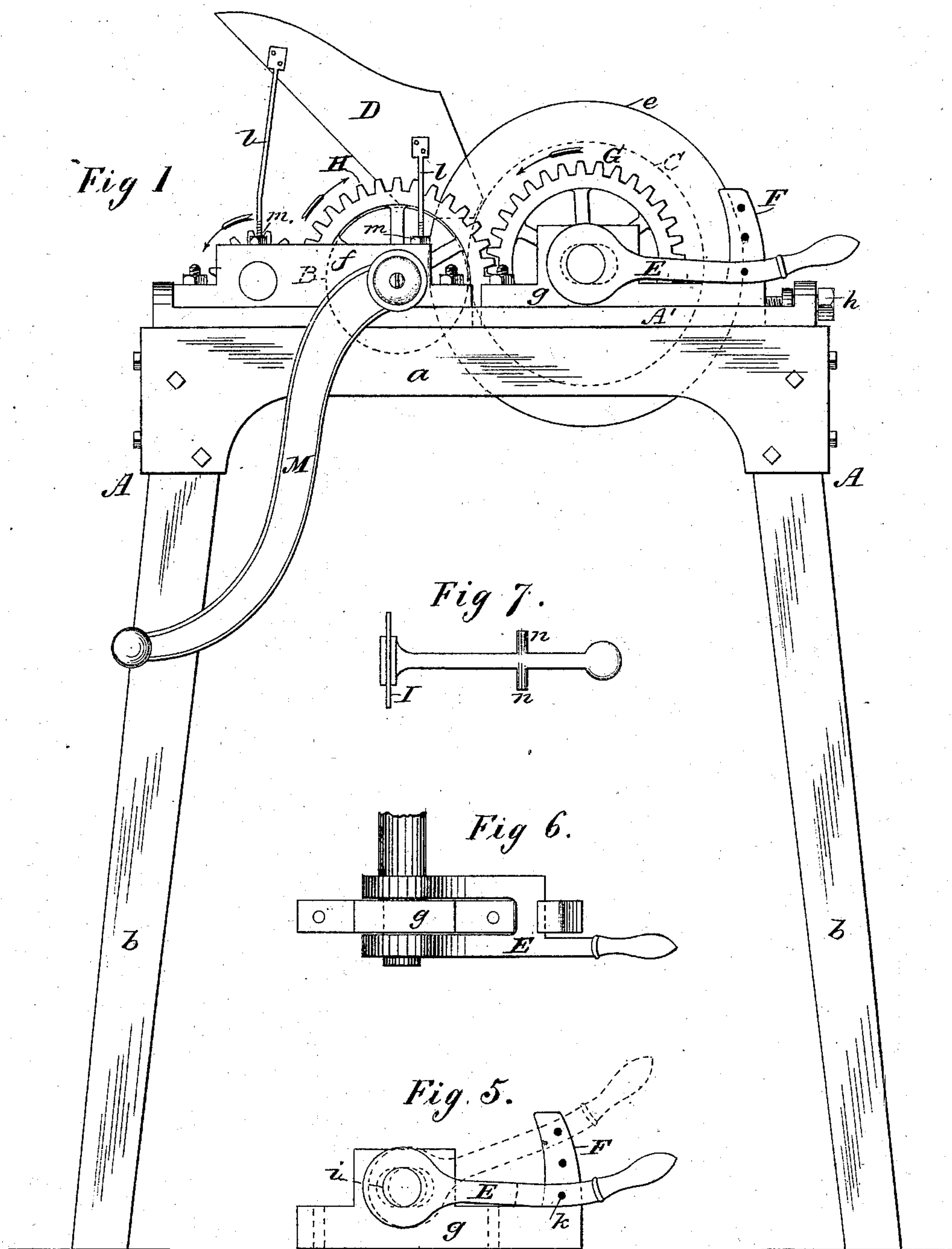
2 Sheets—Sheet 1.

C. HEMJE.

TOBACCO STEM CRUSHING MACHINE.

No. 254,969.

Patented Mar. 14, 1882.



WITNESSES  
Thos Smith  
E. W. Craig

By His Attorney

INVENTOR  
*Charles Hemje.*

J. C. Brecht.

(No Model.)

2 Sheets—Sheet 2.

C. HEMJE.

TOBACCO STEM CRUSHING MACHINE.

No. 254,969.

Patented Mar. 14, 1882.

Fig. 4.

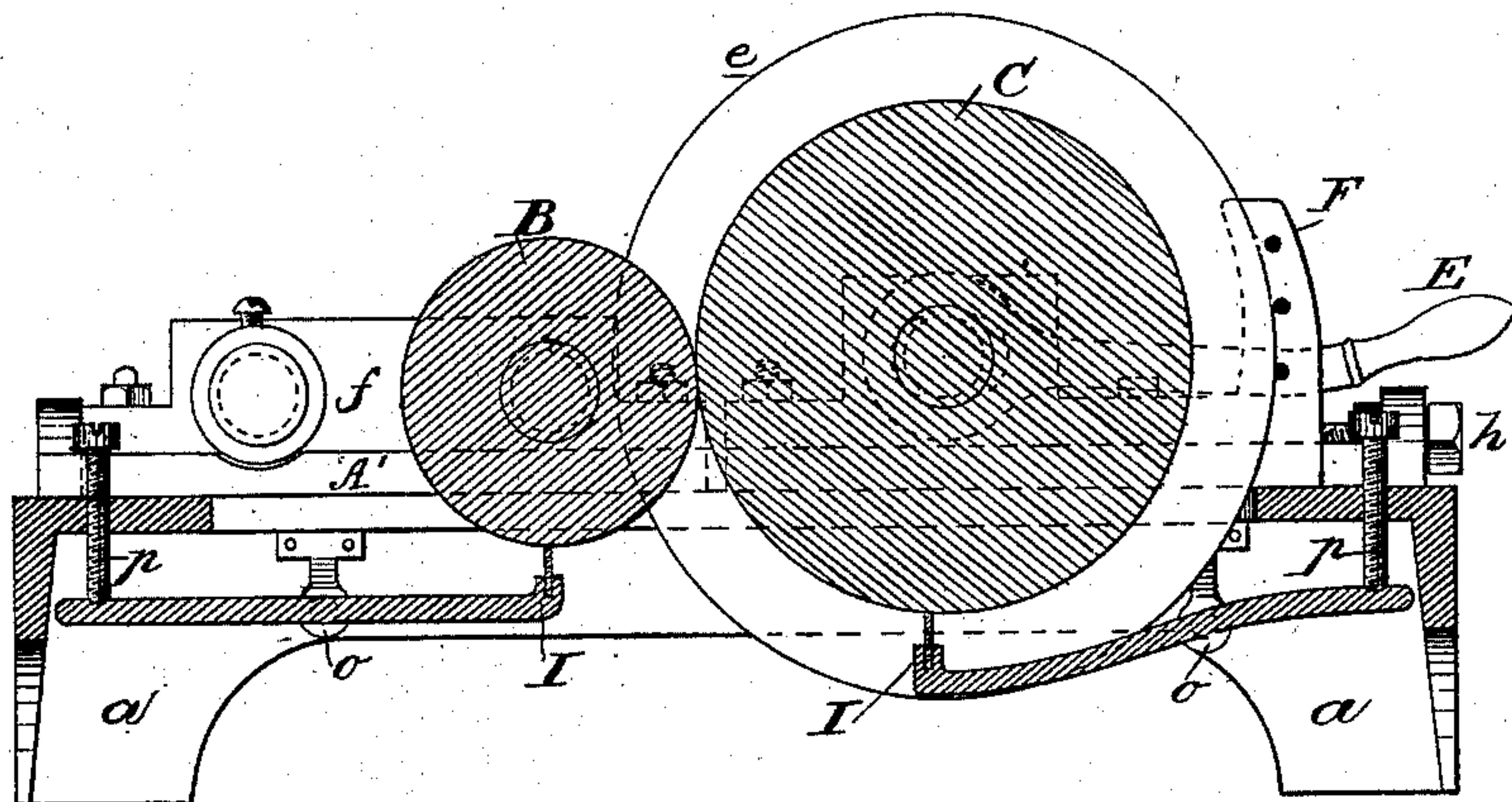


Fig 3

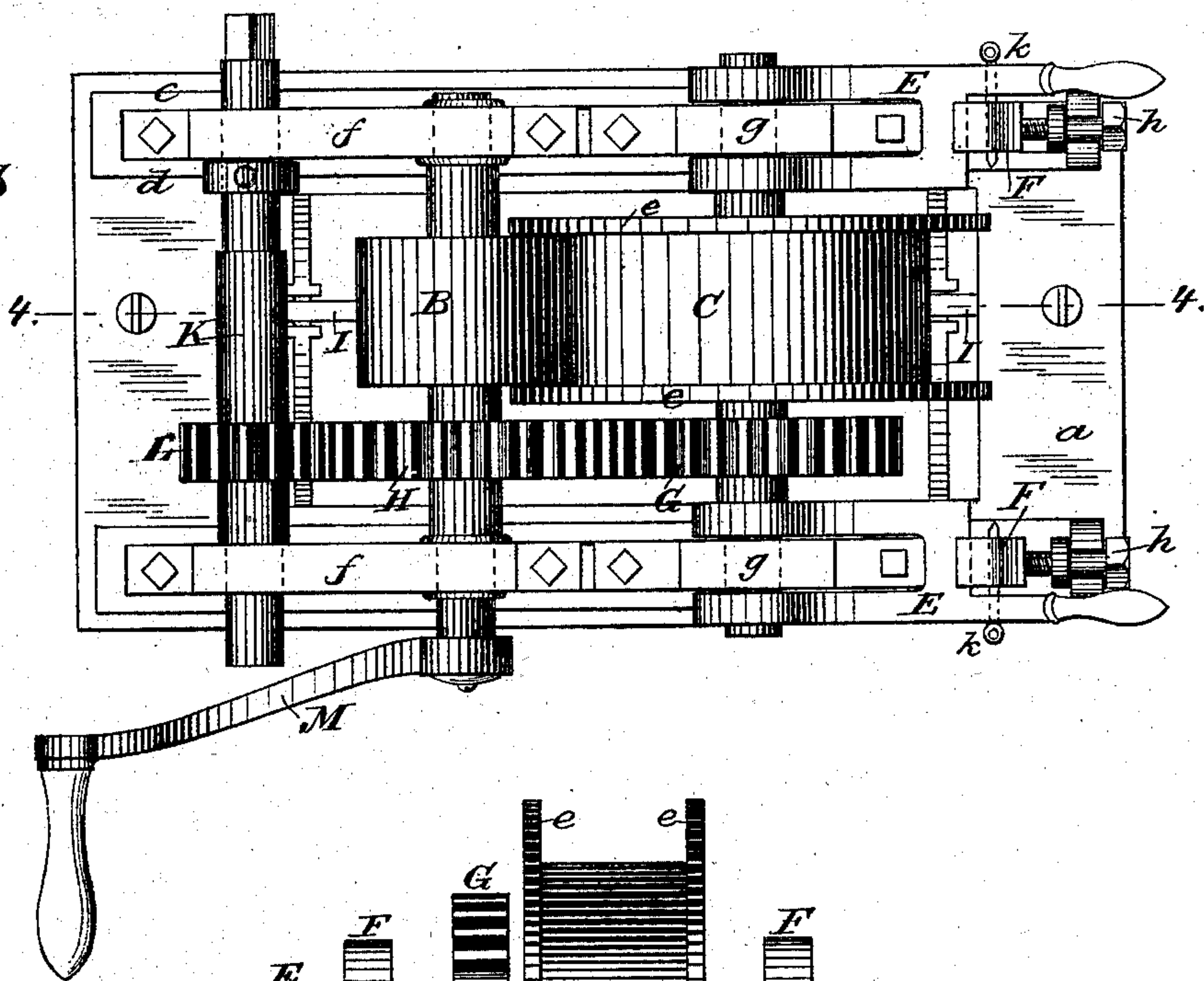
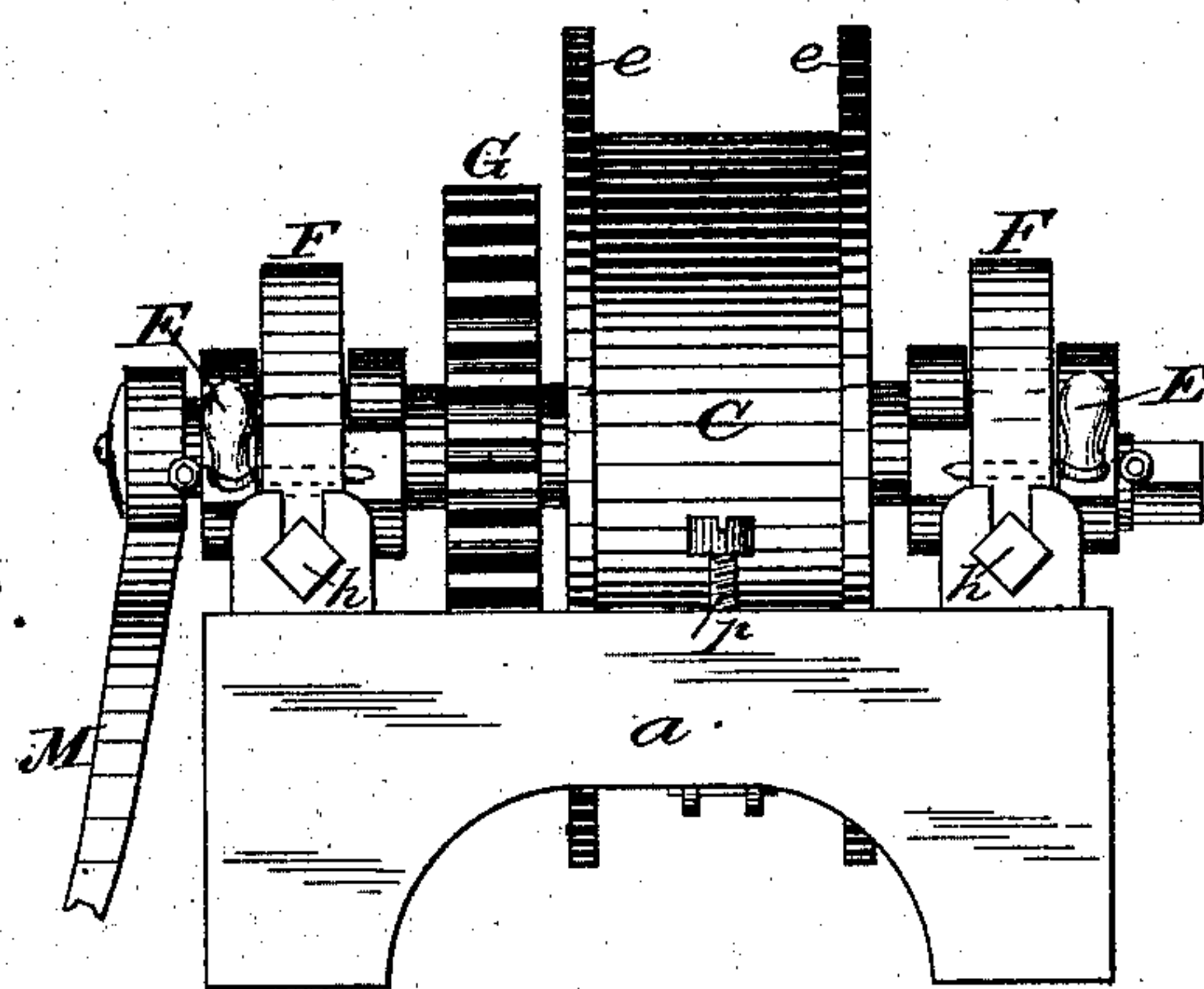


Fig 2.



WITNESSES  
Thos Smith  
E. W. Gray

By his Attorney

INVENTOR  
Charles Hemje

J. C. Brecht



# UNITED STATES PATENT OFFICE.

CHARLES HEMJE, OF WASHINGTON, DISTRICT OF COLUMBIA.

## TOBACCO-STEM-CRUSHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 254,969, dated March 14, 1882.

Application filed October 11, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES HEMJE, a citizen of the United States, residing at Washington city, in the District of Columbia, have invented certain new and useful Improvements in Tobacco-Stem-Crushing 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.

My invention relates to machines for crushing and preparing the stems of Havana and other tobacco for the manufacture of cigars; and the object is to improve the construction of such machines.

The invention consists in the construction and arrangement of certain parts of a stem-crushing machine, as will be more fully hereinafter described, and specifically pointed out in the claims.

In the accompanying drawings, Figure 1 represents a side elevation of my machine. Fig. 2 is an end elevation of the same. Fig. 3 is a plan view of my machine. Fig. 4 is a longitudinal section on the line 4 4 of Fig. 3. Figs. 5 and 6 are detail views of the eccentric movement for the rollers. Fig. 7 is a plan view of a scraper.

In the drawings, A represents a suitable frame, preferably made as shown, and consisting of an iron top, *a*, with wooden legs *b* fastened to it. The iron top is provided on each side with two ribs, *c d*, forming between them a groove in which the journal-boxes of the rollers rest.

The crushing apparatus consists of two rollers, B C, arranged side by side in a horizontal, or nearly horizontal, plane, one of which is flanged in such a manner that its flanges lap and fit closely to the sides of the other roller. In this manner a receptacle is formed by the two faces of the rollers and the two flanges, thus serving as a guide for the stems, and into the depression thus formed the mouth of the funnel D or feed-box extends. It is not sufficient that the stem should only be rolled flat; but it is also necessary that the fiber in the stem should be broken, which is accomplished by running the rollers at an unequal speed,

which can be done in three different ways. 50 The first is to have rollers of different diameter geared together by gear-wheels of equal size, the second is by having rollers of equal diameter geared together by gear-wheels of unequal diameter, and the third is by having 55 both rollers and gear-wheels of unequal diameter. The roller B, with its shaft, rests at each end in a journal-box, *f*, which is placed between the ribs *c d*, and is bolted to the frame. The roller C is secured to a shaft resting in journal-boxes *g*, which, however, are not bolted stationary to their places, the bolts in these journal-boxes passing through elongated or slotted openings in the frame A, so as to allow the bearings of the roller to be moved or regulated 65 by the set-screws *h* in the end of the bed-plate A'.

One great difficulty in crushing stems has been the attempt to crush the same in one operation, no matter whether the stems were thin 70 or thick, thereby requiring too much power. Of course the rollers could be set farther apart by the set-screws *h* in the end of the bed-plate A'; but this would require the loosening of the bolts passing through the frame. By running 75 the stems two or three times through the machine and setting the rollers at the first operation a little farther apart, at the second operation a little closer together, and at the third operation still closer, much hard labor is saved. 80 To do this the journal-boxes *g* are arranged with elongated or slotted bearings for the shaft, allowing the shaft and roller a forward-and-backward movement. To adjust the roller to the desired position each end of the shaft is provided with a forked lever, E, which is loose on 85 the shaft. Each arm of said lever bears close to the side of the journal box, and is bored out at the end for the reception of the shaft, as shown at *i* in Fig. 5. The journal-box has on its outer 90 end an upward projection, F, with its inner face eccentric to the roller-shaft, the back of the forked lever E bearing against the inner face. By raising the lever E to the position shown by the dotted lines in Fig. 5 the roller 95 is moved slightly back, the lever being held in position by a pin or bolt, *k*, passing through a hole in the lever and projection. By this ar-



rangement a quick and uniform adjustment is obtained independent of the adjustment of the set-screws.

A feed-box or funnel, D, extends with its lower end nearly down to the rollers and between the flanges of the one roller, and is supported on rods *l*, passing into the journal block or frame, the nuts *m* on the rods being for the purpose of properly regulating the position of the feed-box. The rollers are geared together by gear-wheels G H, and on the end of one of the roller-shafts is a suitable crank or pulley to operate the machine either by hand or power. Each roller is kept clean by means of a scraper, I, which can be attached in any suitable position, but is preferably arranged against the lower side of the roller. The scrapers I are provided with projections *n*, which are journaled in brackets or lugs *o*, extending from and fastened to the frame, and said scrapers are regulated by set-screws *p*.

An auxiliary shaft, K, with the smaller gear-wheel L, is arranged in any suitable well-known manner, so that it can be easily thrown in and out of gear with the gear-wheel H, and operated by the crank M on this shaft K the work will be done more slowly, but more easily; or, if desired, both shafts may be applied with cranks on opposite sides.

The value of Havana stems as a substitute

for the lower grades of Havana tobacco in the manufacture of cigars has long been known; but the difficulty has been in preparing the stems for that purpose. The object of this invention is to produce a machine which is simple in its construction, which does not require too much power, so that it can be easily worked by hand, and by its cheapness is within reach of even the smallest manufacturer.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a tobacco-stem-crushing machine, the slotted journal-boxes *g*, provided with projections F and the eccentric adjusting-levers E, in combination with crushing-rollers, substantially as and for the purpose set forth.

2. In a tobacco-stem-crushing machine, the combination of the plain and flanged rollers B C, arranged side by side in a horizontal, or nearly horizontal, plane with the feed-box D, fitting between the flanges of one of the rollers, arranged as shown, and for the purpose set forth.

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

CHARLES HEMJE.

Witnesses:

C. S. DRURY,  
W. O'BRIEN.