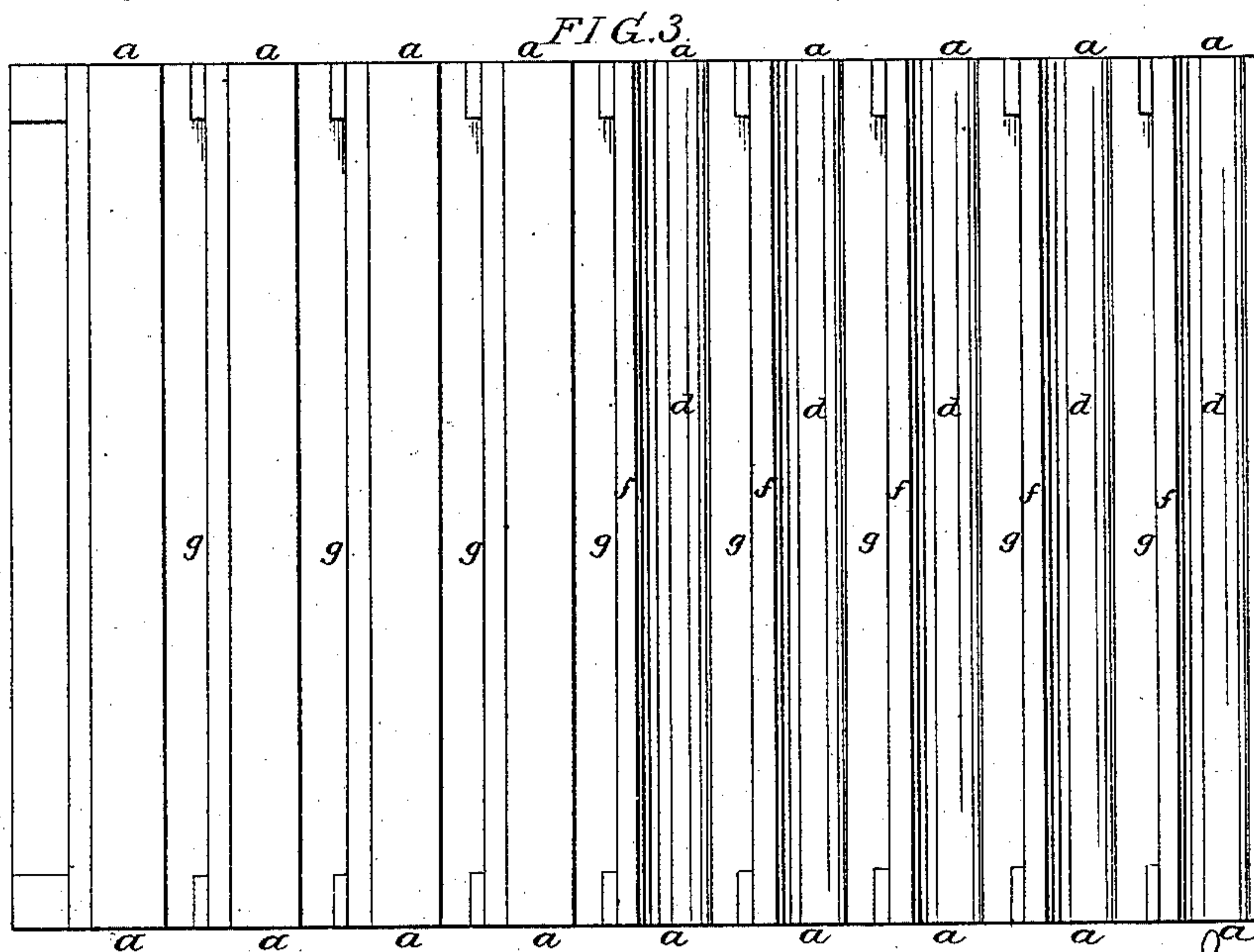
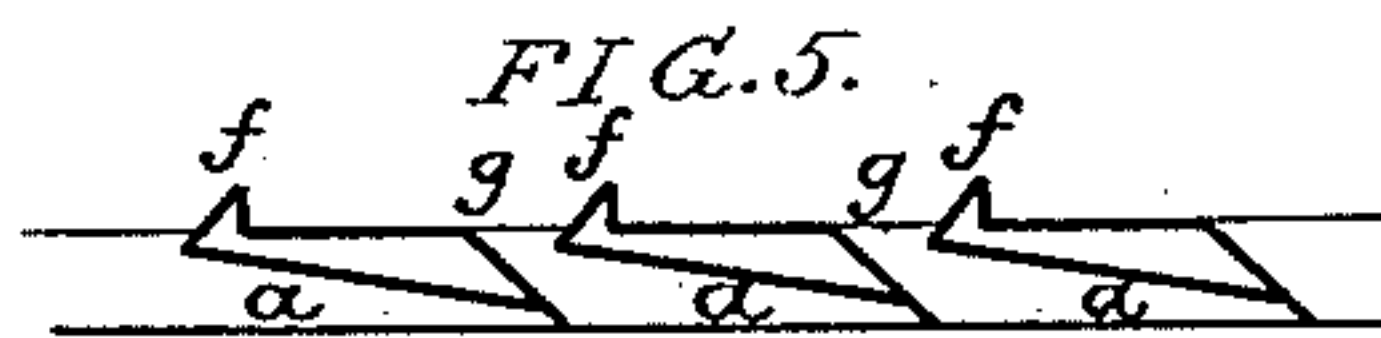
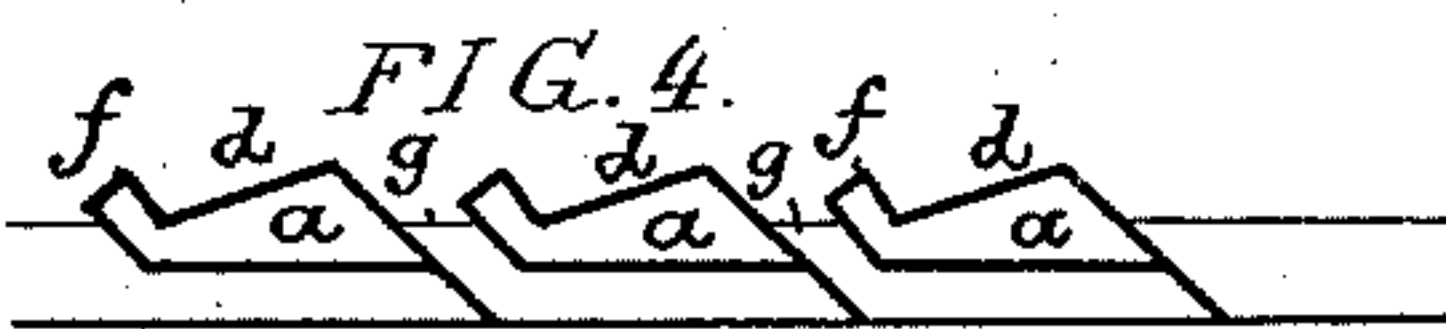
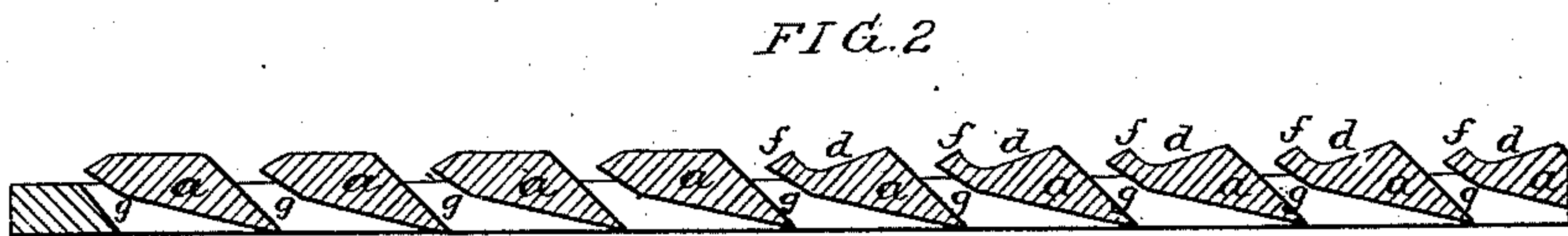
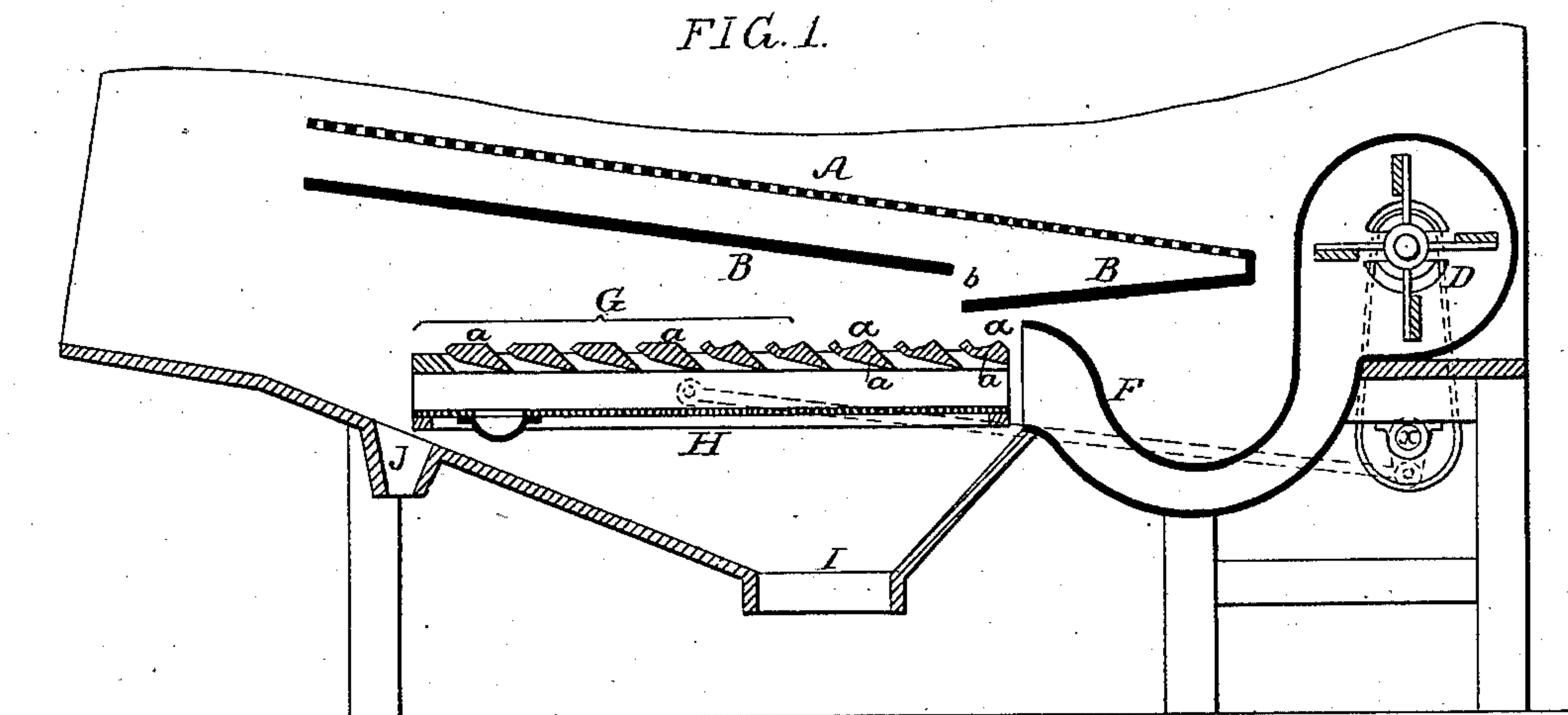


(No Model.)

H. ELLIS.
GRAIN RIDDLE.

No. 307,277.

Patented Oct. 28, 1884.



Witnesses
James F. Jobins
John C. Parker

Inventor
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by his Attys
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UNITED STATES PATENT OFFICE.

HIRAM ELLIS, OF POTTSTOWN, PENNSYLVANIA.

GRAIN-RIDDLE.

SPECIFICATION forming part of Letters Patent No. 307,277, dated October 28, 1884.

Application filed May 5, 1884. (No model.)

To all whom it may concern:

Be it known that I, HIRAM ELLIS, a citizen of the United States, and a resident of Pottstown, Montgomery county, Pennsylvania, have
5 invented certain Improvements in Grain-Riddles, of which the following is a specification.

The object of my invention is to so construct the bars of a grain-riddle for thrashing-machines or separators that a mass or layer of
10 grain will be maintained on the bar, and thus prevent the rebounding of other grain which falls onto the same.

In the accompanying drawings, Figure 1 is a longitudinal section of sufficient of a thrashing-machine to illustrate my invention; Fig.
15 2, an enlarged sectional view of the riddle; Fig. 3, a plan view of the same, and Figs. 4 and 5, views of modified forms of the riddle.

In Fig. 1, A represents the shaking table of
20 a thrashing-machine; B, the grain-bottom; D, the blast-fan; F, the blast-spout; G, the riddle; H, the bottom screen of the same; I, the grain-spout, and J the tailing-spout, all of these parts being arranged as is usual in thrashing-machines, and the riddle having a longitudinal
25 shaking movement imparted to it by a crank on a shaft, *x*, driven from the fly-wheel shaft, as shown, or in any other suitable manner.

The feature of my invention is illustrated in
30 Fig. 2, on reference to which it will be seen that the transverse bars *a* of that portion of the riddle which is adjacent to the delivery-mouth *b* of the grain-bottom are each recessed so as to form a pocket, *d*, terminating in a retaining-rib, *f*, at the front or discharge end of
35 the bar. By this means a mass or layer of grain is always maintained on the top of the bar to form a cushion for the stream of grain flowing from the grain-bottom onto the riddle,
40 so that the fresh grain does not rebound, but is at once brought under the action of the riddle and fed forward over the same. The grain

which passes over the retaining-rib strikes the inclined rear edge of the bar in advance, and is deflected through the space *g* between
45 the bars and onto the screen H beneath the riddle, the chaff passing over the top of the riddle, and as it passes each opening *g* being subjected to the action of the blast from the fan D, which effects the separation of the chaff
50 from the grain. There is a further separation by the screen H, the grain being passed through the spout I, and the tailings through the spout J. The bars *a* at the rear or delivery end of the screen are plain, as there is not at this
55 point any necessity for the retaining-ribs, the grain being screened off, and it being desirable to discharge the chaff as readily as possible.

My improved riddle may be made of sheet
60 metal as well as wood, instances of such sheet-metal riddles being shown in Figs. 4 and 5.

While it is preferable that the rear end of the bar should be as high as the top of the rib
65 *f*, the results of my invention may in a measure be attained even when the top of the bar is flat, as in Fig. 5, the rib *f* serving to retain on the bar sufficient grain to form a cushion, as described above.

I claim as my invention—

1. A grain-riddle having bars with retaining-ribs *f* at the front or discharge ends of the bars, as set forth.

2. A grain riddle having bars with pockets *d* terminating in retaining-ribs *f* at the front
75 or discharge ends of the bars, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HIRAM ELLIS.

Witnesses:

JACOB H. GABEL,
W. M. HOBART.