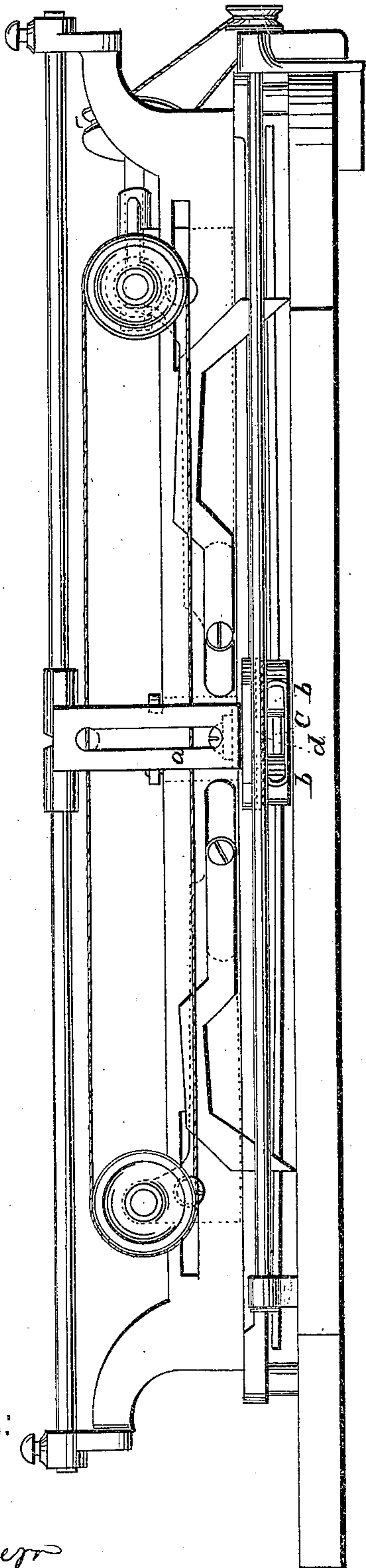


*G. S. Harwood.*  
*Carding Mach.*

*N<sup>o</sup> 7,100.*

*Patented Nov. 19, 1867.*

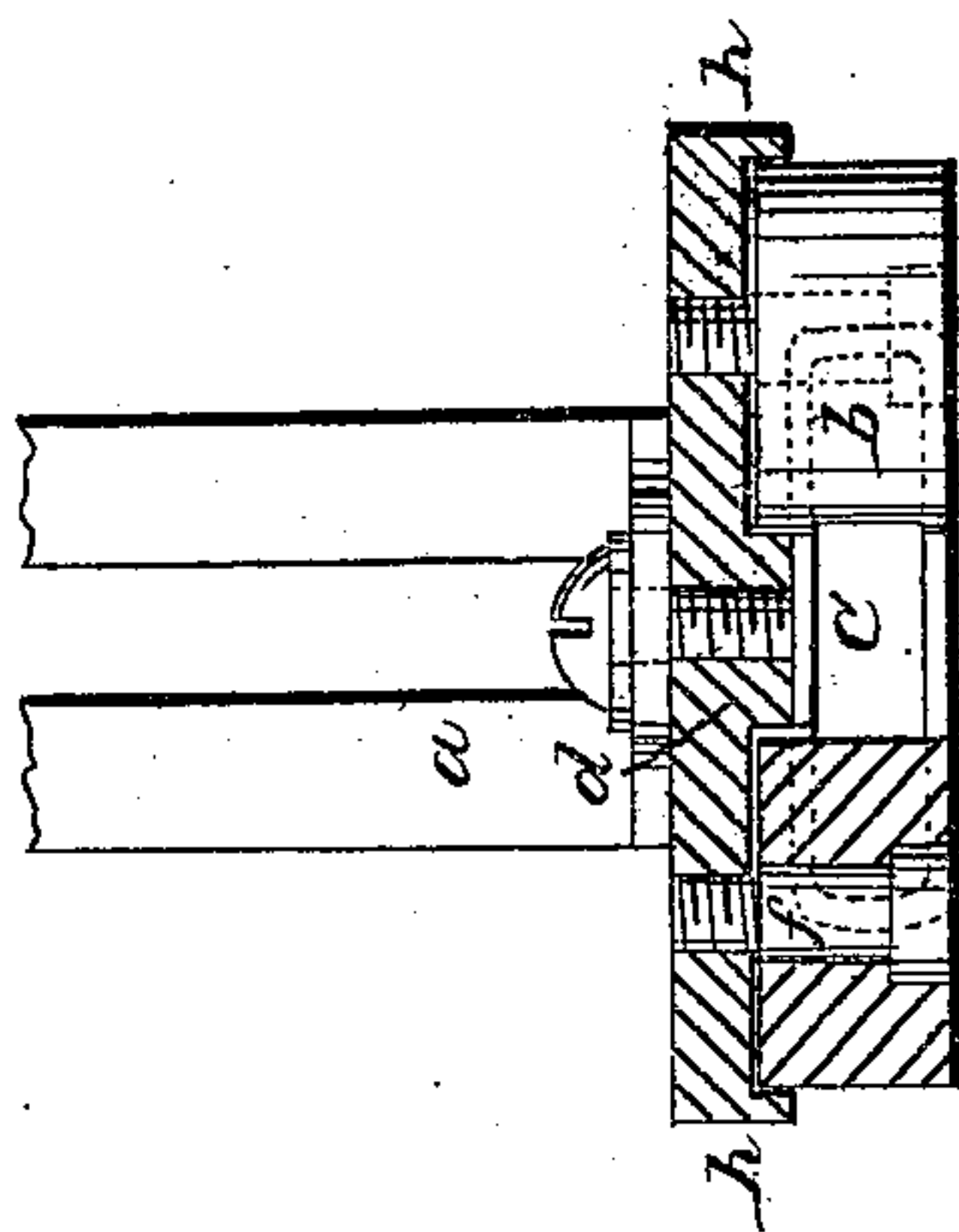
*Fig. 1.*



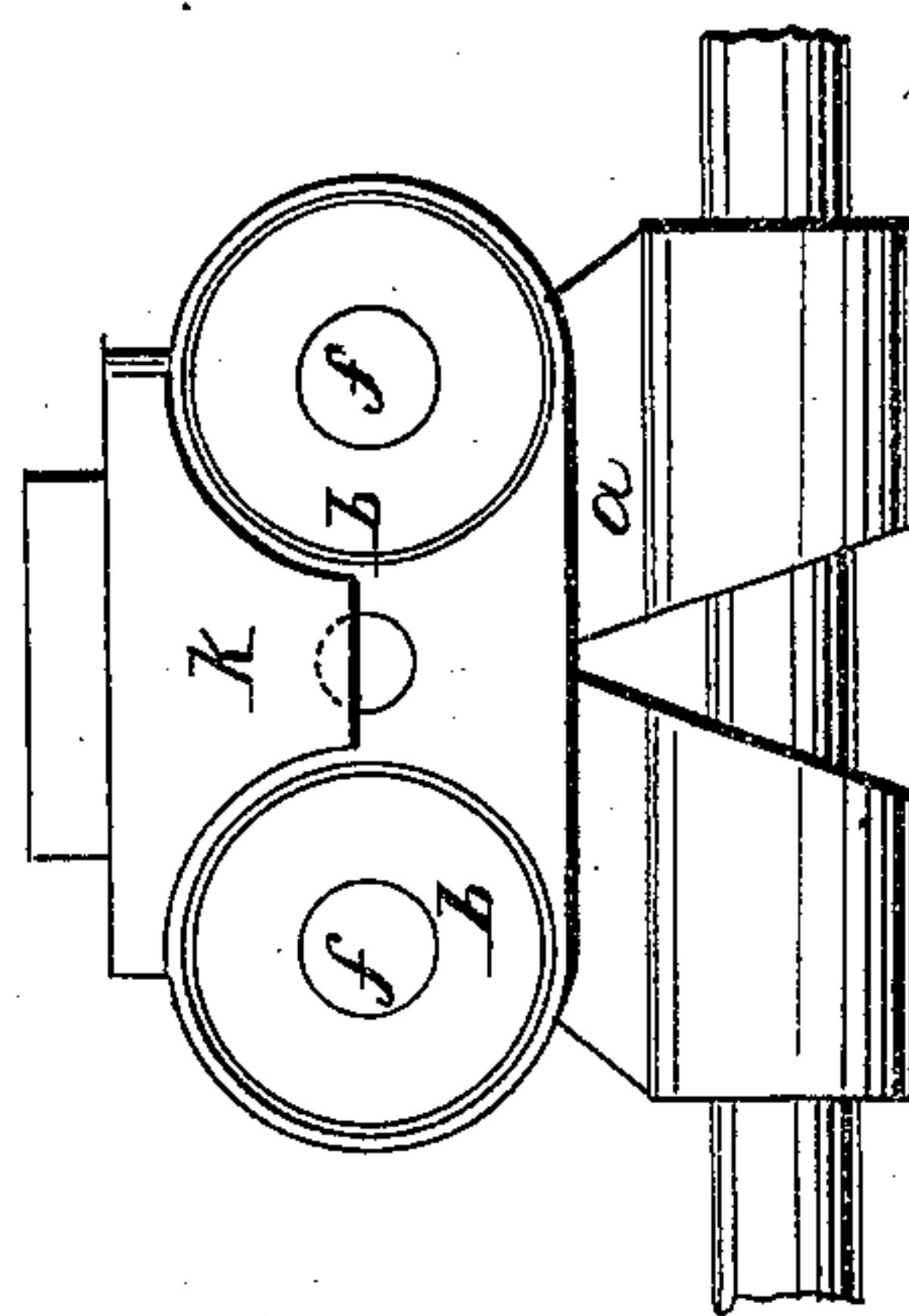
WITNESSES:

*W. Bailey*  
*Chas. G. Rogers*

*Fig. 3.*



*Fig. 2.*



INVENTOR:

*George S. Harwood*  
*by his Attorney*

*A. Pollak*



# United States Patent Office.

GEORGE S. HARWOOD, OF BOSTON, MASSACHUSETTS.

*Letters Patent No. 71,001, dated November 19, 1867.*

## IMPROVEMENT IN FEEDER FOR CARDING MACHINES.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO WHOM IT MAY CONCERN:

Be it known that I, GEORGE S. HARWOOD, of Boston, in the county of Suffolk, and State of Massachusetts, have invented certain new and useful Improvements in Card-Feeding Machines; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a front elevation of a card-feeder to which my improvements are applied.

Figure 2 is a plan view of the traversing guide and rolls, looking from beneath; and

Figure 3 is a longitudinal vertical section of the same.

My invention relates to a machine in general use for feeding cards, for which Letters Patent of the United States, No. 18,888, were issued to James Apperly and W. Clissold, and it has special reference to the traversing-rollers, which carry the sliver from one side to the other of the machine, depositing it with the lifting-catches on each side. In the working of this machine considerable annoyance has been experienced from the small particles of waste working between the rolls and the plate to which they are attached, and from which they depend, choking the rolls, and preventing their revolution. In some cases, also, (with a very small sliver, for instance,) it has been possible for the sliver to slip between the ring or guide which admits it to the rolls and the rolls themselves, and then under the rolls, causing it to break down. To obviate these difficulties is the object of my invention, which consists essentially, first, in the combination with the traversing-rolls of a countersunk-plate, for carrying the rolls, under such an arrangement that the upper portion of the rolls is received into the plate, which forms a cap fitting closely over their tops; second, in forming the guide or ring attached to the traverse-plate with a lip or guard, extending partly around and between the rollers, so as to support and prevent the slipping down of the sliver.

To enable others skilled in the art to understand and use my invention, I will now proceed to describe the manner in which the same is or may be carried into effect, by reference to the drawings.

In fig. 1 is represented such portion of a "self-acting feeder" as required to fully illustrate my invention. The travelling guide *a* moves from one side to the other of the machine, being actuated for this purpose by suitable mechanism. The sliver passes to the traversing-rolls *b* through a ring, *c*, in the front part of the traverse-plate *d*, and is laid in continuous diagonal rows upon an endless apron, which carries it to the card. The traversing-rolls *b* are attached to the under side of the plate *d* by means of pins *f*, upon which they revolve. In the machine, as ordinarily constructed, the under face of the plate is flat and without indentation, so that there is nothing to prevent the waste working in between the top of the rolls and the plate, thus giving rise to the annoyances above mentioned. In order to obviate this difficulty, I construct the plate so that, at the points where the rolls are attached, it shall be countersunk, or provided with circular recesses, *h*, thus forming caps, in which the rolls are set, and which, while fitting close enough to exclude all waste, allow the rolls to move easily and freely on their axes. A plate of this construction can be readily cast or otherwise formed, and can be made quite as cheaply as the ordinary plate.

The ring or guide *c*, through which the sliver passes to the traversing-rolls, is provided with a lip or guard, *k*, which forms a continuation of the lower part of the ring, and extends partly around and between the rollers, as shown in fig. 2. The sliver passing in through the ring, is thus kept from slipping down between the ring and the rolls, or under the rolls themselves, being supported and upheld by the lip, which passes far enough around and between the rolls to entirely prevent the happening of any such contingency. The lip or guide may, of course, be extended more or less around the rolls, as deemed desirable.

Having described my invention, and the manner in which the same is or may be carried into effect, what I claim, and desire to secure by Letters Patent, is—

1. In a card-feeding machine, such as described, the plate for carrying the traversing-rolls, constructed as herein specified; that is to say, countersunk, or provided with recesses, so as to form a cap or covering for the said rolls, substantially as and for the purposes set forth.

2. The guide or ring attached to the traverse-plate, provided with a lip or guard, extending between and partly around the rollers, as and for the purposes specified.

In testimony whereof, I have signed my name to this specification before two subscribing witnesses.

GEO. S. HARWOOD.

Witnesses:

A. POLLOCK,

WM. H. SWEETSER.