(No Model.) 3 Sheets—Sheet 1.

W. RAUP.

GUIDE FOR STEMS OF STAMP MILLS.

No. 253,099. Patented Jan. 31, 1882.

Fig. 1.

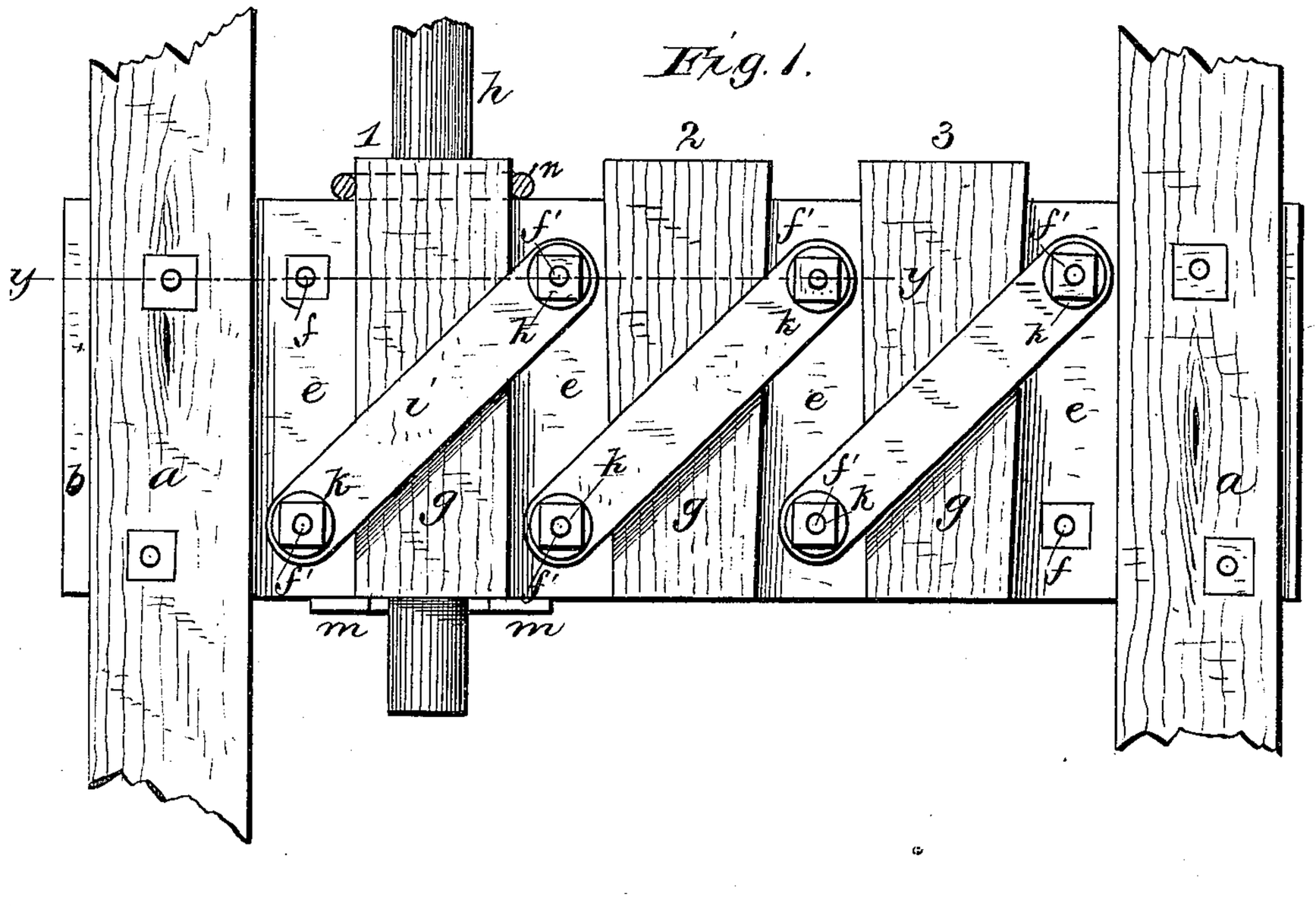
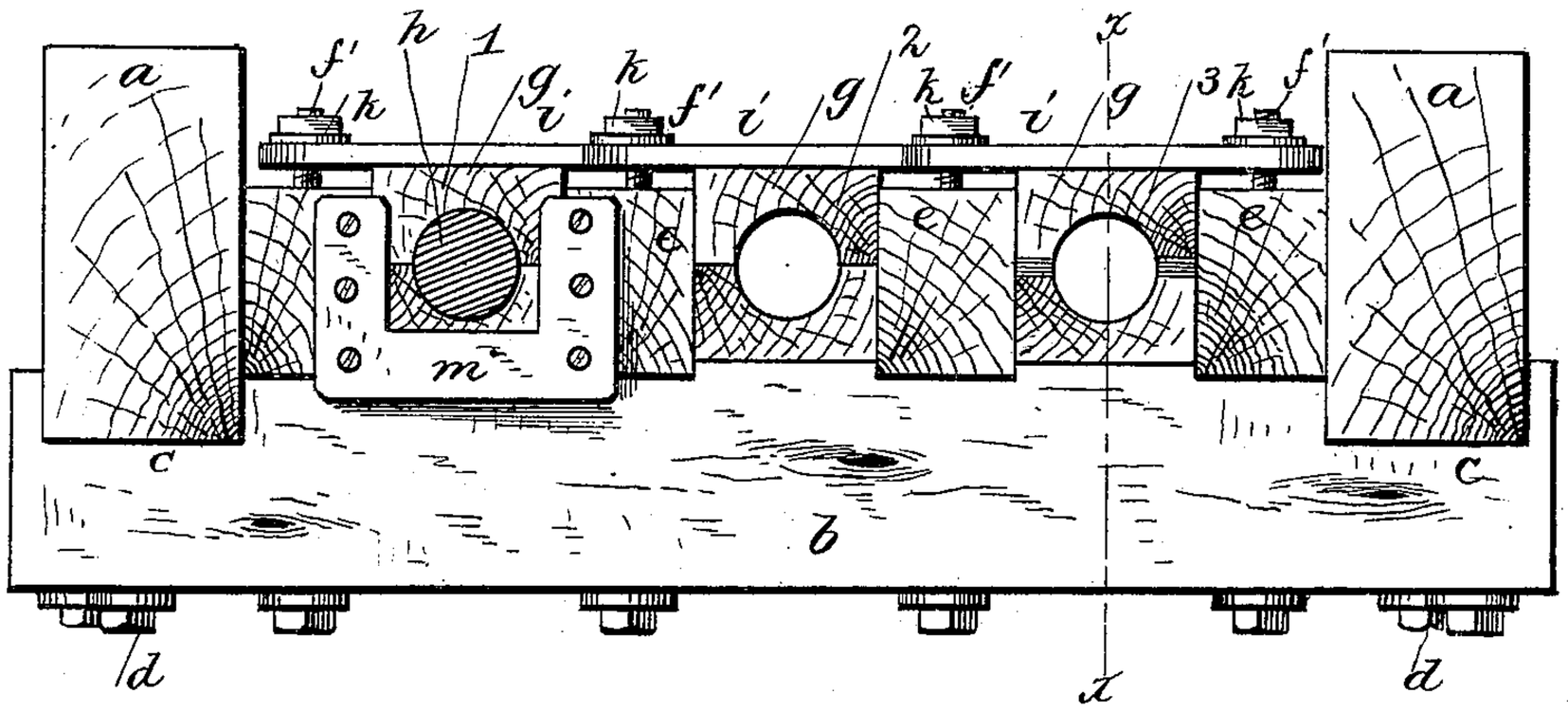


Fig. 2.



Witnesses.
Franck L. Oirand
E. A. Finckel.

Inventor
William Raup.
by his attorney.
Wm. N. Finckel.

(No Model.) 3 Sheets—Sheet 2.

W. RAUP.

GUIDE FOR STEMS OF STAMP MILLS.

No. 253,099. Patented Jan. 31, 1882.

Fig. 3.

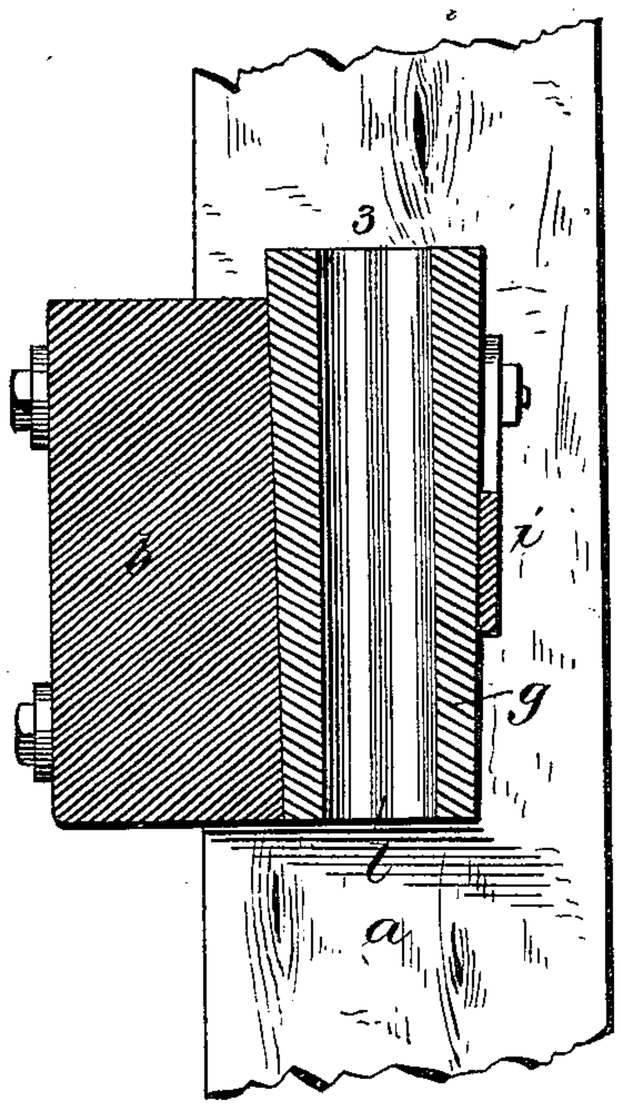
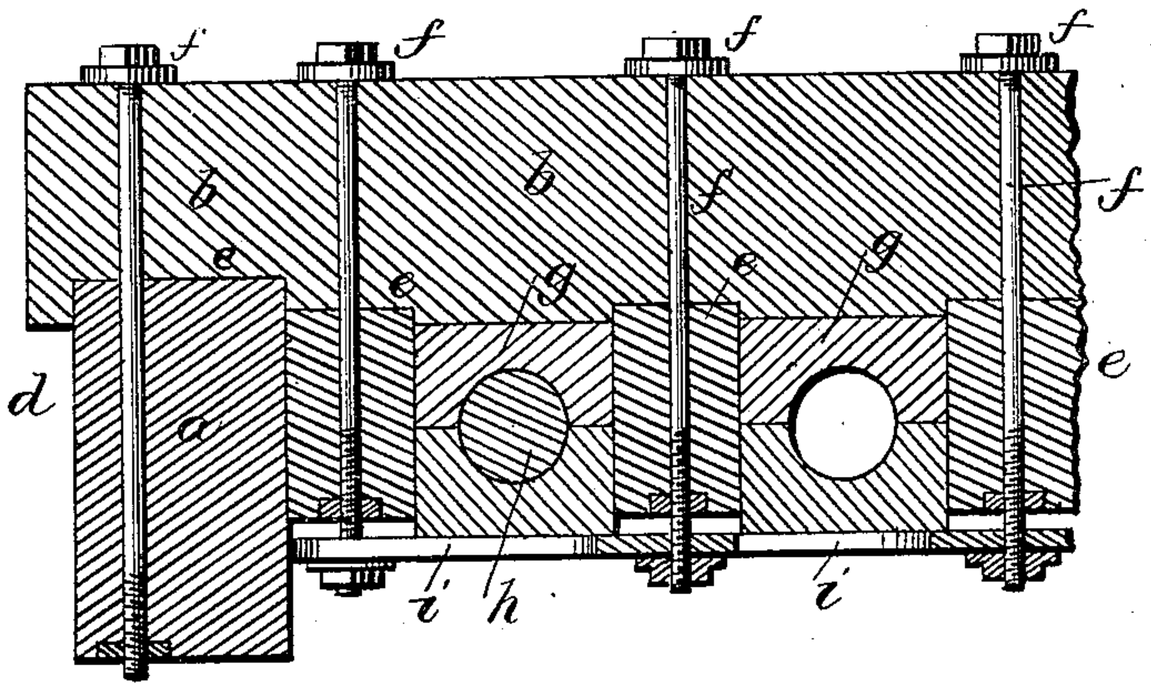


Fig. 4.



Witnesses
F. L. Ouvaid
E. A. Finckel.

Inventor.
William Raup,
by his attorney,
Wm. F. Finckel.

(No Model.) 3 Sheets—Sheet 3.

W. RAUP.

GUIDE FOR STEMS OF STAMP MILLS.

No. 253,099. Patented Jan. 31, 1882.

Fig. 5.

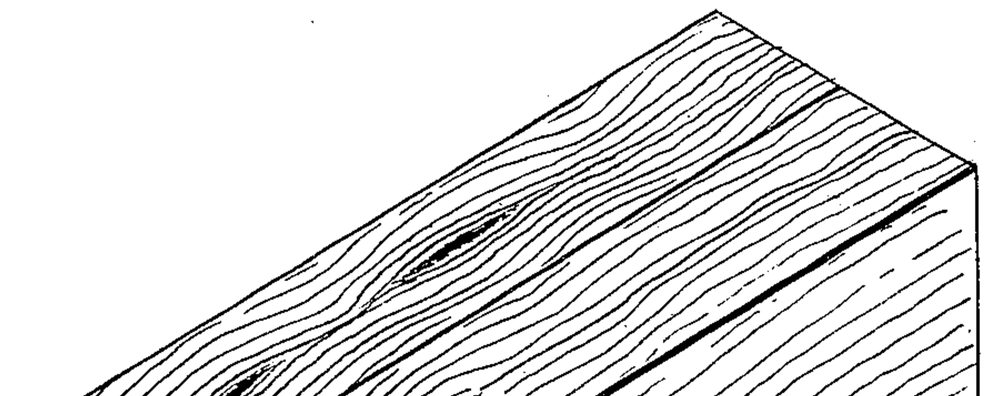


Fig. 6.

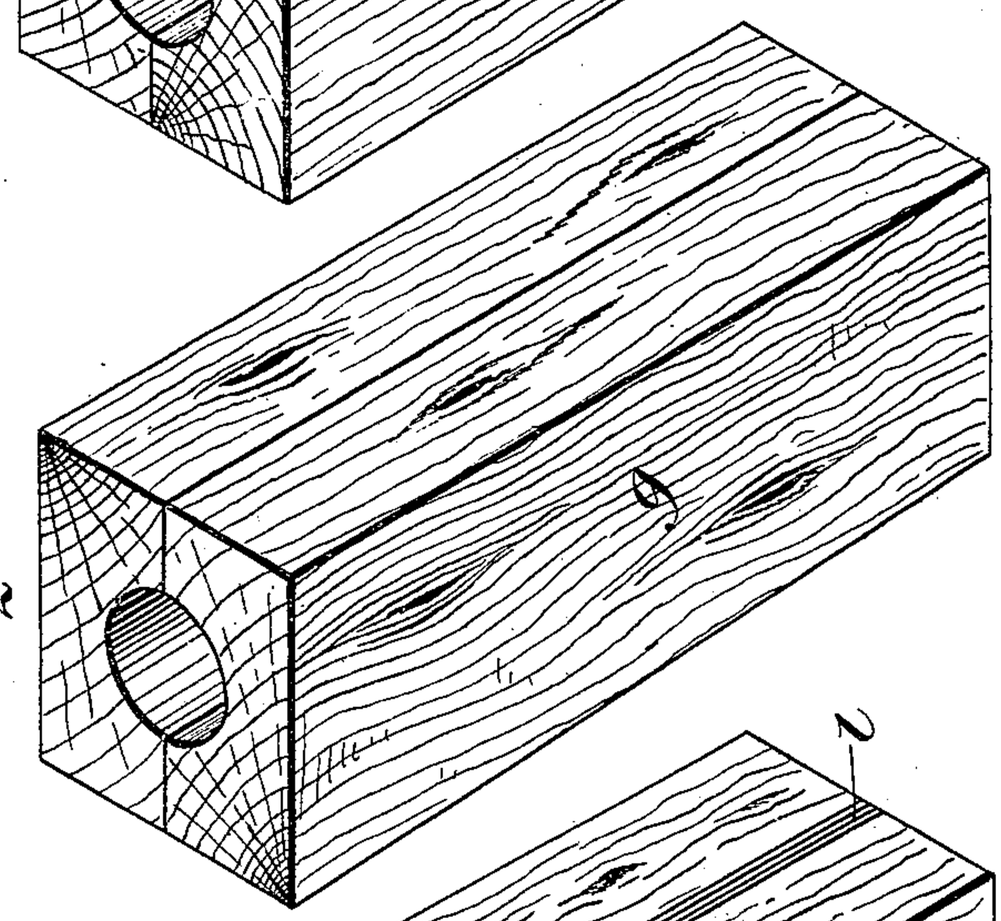
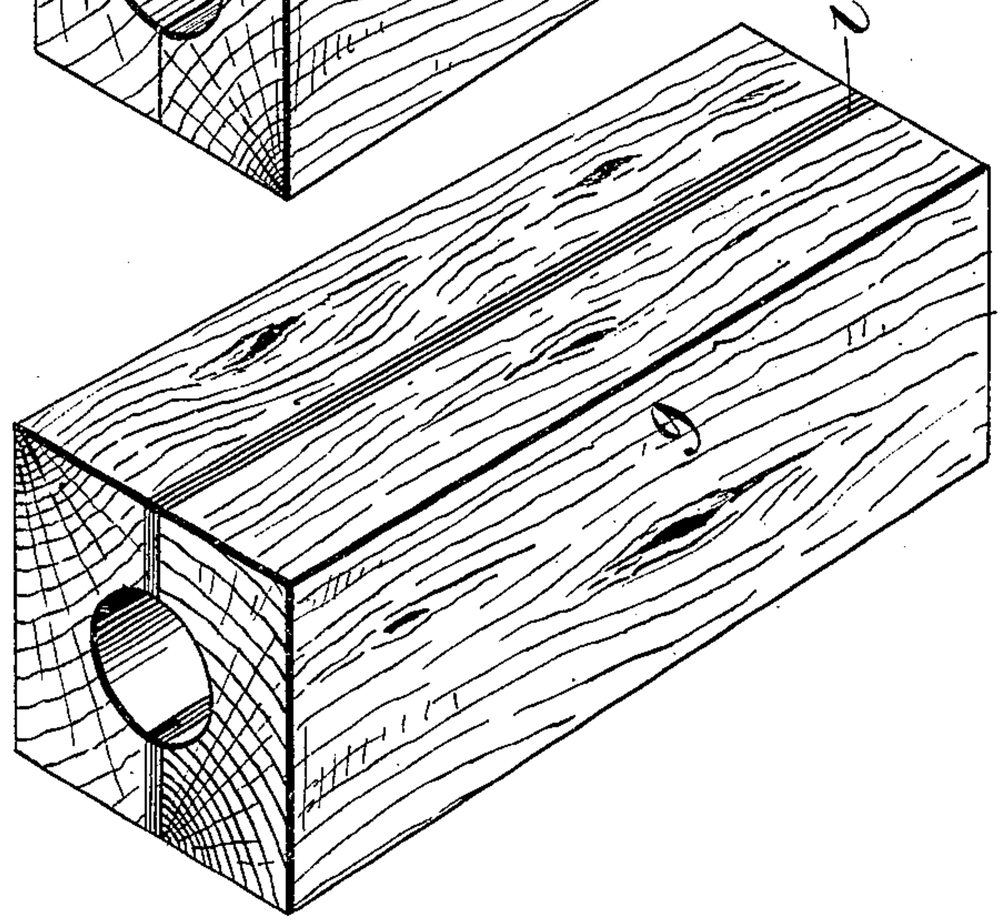


Fig. 7.



Witnesses.
Franck L. Durand
E. A. Finckel

Inventor.
William Raup,
by his attorney,
Wm. H. Finckel.

UNITED STATES PATENT OFFICE.

WILLIAM RAUP, OF PARK CITY, UTAH TERRITORY.

GUIDE FOR STEMS OF STAMP-MILLS.

SPECIFICATION forming part of Letters Patent No. 253,099, dated January 31, 1882.

Application filed July 25, 1881. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM RAUP, a citizen of the United States, residing at Park City, in the county of Summit, Utah Territory, have invented certain new and useful Improvements in Guides for the Stems of Stamp-Mills; 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form part of this specification.

This invention is in the nature of improvements in the guides for the stems of stamp-mills; and the object of the invention is to simplify and improve the construction, strengthen and increase the durability of the parts, and adapt the gibs for adjustment to compensate for wear.

The invention consists in a guide-rail mortised and bolted to the standards or uprights, and having sockets formed of blocks mortised and bolted thereupon to receive adjustable gibs in which the stems play, said gibs being adjustable in order to admit of change of position to compensate for the unequal wear occasioned by the action of the cams on the stem-tappets throwing the stems out of a true vertical, and being held in their sockets under pressure by braces bolted over them, the construction, combinations, and arrangements of the several parts being and operating substantially as hereinafter specified and claimed.

In the accompanying drawings, in the several figures of which like parts are correspondingly designated, Figure 1 is a front elevation of so much of a stamp-mill frame as is necessary to illustrate my improvements. Fig. 2 is a bottom view thereof. Fig. 3 is a vertical cross-section on line *x x* of Fig. 2. Fig. 4 is a horizontal cross-section on the line *y y* of Fig. 1. Figs. 5, 6, and 7 are perspective views of the three several forms of gibs shown in the other figures.

The letters *a a* indicate standards, uprights, or posts of a stamp-mill or battery, to which is mortised and bolted the guide-rail *b*, *c* being the mortises in the guide-rail, and *d* transverse bolts to secure the rail to the posts.

Mortised vertically in the guide-rail *b* are blocks *e*, of wood or metal, which are held in place by bolts *f* passed transversely through them and the rail. These blocks are proportioned in number to the number of stamps to the battery, to form sockets between their adjacent sides to receive the gibs *g*, which latter are made in halves, preferably, and vertically tubular interiorly. These tubular gibs receive the stems *h* of the stamps and serve as the housings, bearings, and guides for such stems. The gibs project outwardly beyond the front edges of the blocks *e* and are held in place by preferably diagonal plates *i*, which are held over the gibs firmly by having their ends fit over projecting portions *f'* of the bolts *f*, to which they are secured by nuts *k*. The plates *i*, by means of their mode of fastening over the gibs, become, in fact, clamps or braces, and effectually serve to securely keep the gibs in place.

By the action of the cams on the stem-tappets in lifting such stems the stems are caused to deviate from the perpendicular and to thereby wear the gibs unevenly. To correct this and so prevent the wabbling of the stems, I provide for one or more reversals of the gibs.

In Fig. 5 (same as 1 in the other figures) the faces of the gib-sections are parallel throughout. Now, when the stem-recess in this gib is worn the clamp is loosened so as to free the gib and permit its being turned a quarter. This will present, when the clamp is replaced, parallel vertical edges in the gib-tube for the stem, and so correct the former wear and cause the stem to work once again in a perpendicular. When this side has become worn another quarter-turn may be made, and so on until the fourth side has been worn, when new gibs will be required; or the old ones may in some instances be repaired, for, since the wear has been substantially equal all around, the reduction of the meeting edges of the sections and their division into quarters instead of halves will reduce the size of the stem bore or recess to the original diameter. This may be most readily accomplished by placing separable layers of yielding packing *l* between the meeting edges of the sections, as in Fig. 7 and number 3, which layers may be removed, one or more at a time, as the reduction of the size of the

stem's bore demands. Where the gibs are made with four parallel sides, as in Fig. 5, they must needs be supported in their sockets when not held by the clamp, and to this end I provide flanges *m* at the bottom, upon which they rest; or their upper ends may be encompassed by a rubber collar, *n*, to prevent their falling out. In order to dispense with such supports, the gibs may have parallel face and back, but inclined sides, so as form a wedge, as in Fig. 6, (2,) and at 2, Fig. 1; but in this form there can be only one reversal. In Fig. 7 (3) the gibs are of the shape equally on all four sides from the top downwardly, as indicated in the front of 3, Fig. 1, and hence admit of the fourfold reversibility of number 1. In this case (see Fig. 3) the socket in the guide rail will be tapered or inclined in order to true the gibs. The packing *l* of the gibs, by its compressibility and adhesiveness, prevents the halves of the gibs from slipping away from one another. The plates *i*, by their arrangement diagonally or at an incline across the gibs, press the gibs firmly against the guide-rail, thus securing them in proper place and preventing their being displaced vertically by the friction of the moving stems. The mortising of the rail and blocks to their respective supports gives great solidity and strength to the mill. The gibs are preferably made of suitable wood with the grain running lengthwise. By making them reversible or adjustable relatively to their wearing away, their durability or length of service is greatly enhanced and a corresponding economy effected. The reversal or adjustment of one gib need not interfere with the operation of the other stamps, as each is wholly independent of the other, so that repairs may be effected while the battery is in operation.

The packing (*l*) I prefer is many ply sheet-rubber, the plies of which can be separated to reduce its thickness.

The clamps *i* effectually prevent the gibs from being split or shaken out by the jarring or concussion of the battery and entirely obviate the necessity of special means to this end, as has heretofore been required. One end only of the clamps need be freed to permit the reversal of the gibs, since when so loosened the gibs can be freely moved up or down.

Another advantage of my form of gibs consists in the facility with which the tappets of the stems may be removed and affixed. To effect this the clamp *i* of the gib holding the stem of the tappet to be removed is loosened at one end and swung aside. The front gib-section is taken out and the stem pulled down or out. The tappet is then loosened and drawn off the end of the stem and a repaired or new one placed in position. The stem is then moved back into the gib-section and the gib and its brace or clamp replaced. All this may be done without stopping the battery or any other of its stamps, and at a saving of half an hour or more in time over prior constructions.

What I claim is—

1. Gibs for the guides of stems of stamp-mills, adapted to be laterally reversed in their sockets to compensate for wear, combined with the guide-rail and blocks secured thereto, forming sockets in shape corresponding with and to receive the gibs, and with means to hold the gibs in such sockets, substantially as described.

2. The gibs for the guides of the stems of stamp-mills, combined with clamping plates or bars arranged diagonally, or nearly so, across them to hold them in place, substantially as described.

3. The gibs for the guides of the stems of stamp mills, held firmly against or upon the guide-rail, and secured against displacement in any direction by means of plates or bars attached at an incline across their faces, the parts being combined substantially as described.

4. The gibs for the guides of the stems of stamp-mills, adapted to be reversed or adjusted to present new wearing-surfaces for the stems, combined with a socketed guide-rail and diagonal clamps to hold the gibs in place, substantially as described.

5. A sectional gib for the guides of the stems of stamp-mills, adapted to receive the stem, combined with a separate clamp for each gib to hold the gib-sections together and them and the stem in place, the said clamp being held at each end and adapted to be released at one end and swung aside to permit the withdrawal of the front section of the gib and its contained stem, whereby the stem-tappet may be renewed readily without interfering with any other stem or gib or interrupting the operation of the stamp mill or battery, substantially as described.

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

WILLIAM RAUP.

Witnesses:
C. R. JONES,
GEORGE F. HICKS.