

# **MINERAL LAND SURVEYING**

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Mineral land surveying by James Underhill

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**JAMES UNDERHILL**

**MINERAL LAND  
SURVEYING**



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# MINERAL LAND SURVEYING

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THIRD EDITION REVISED

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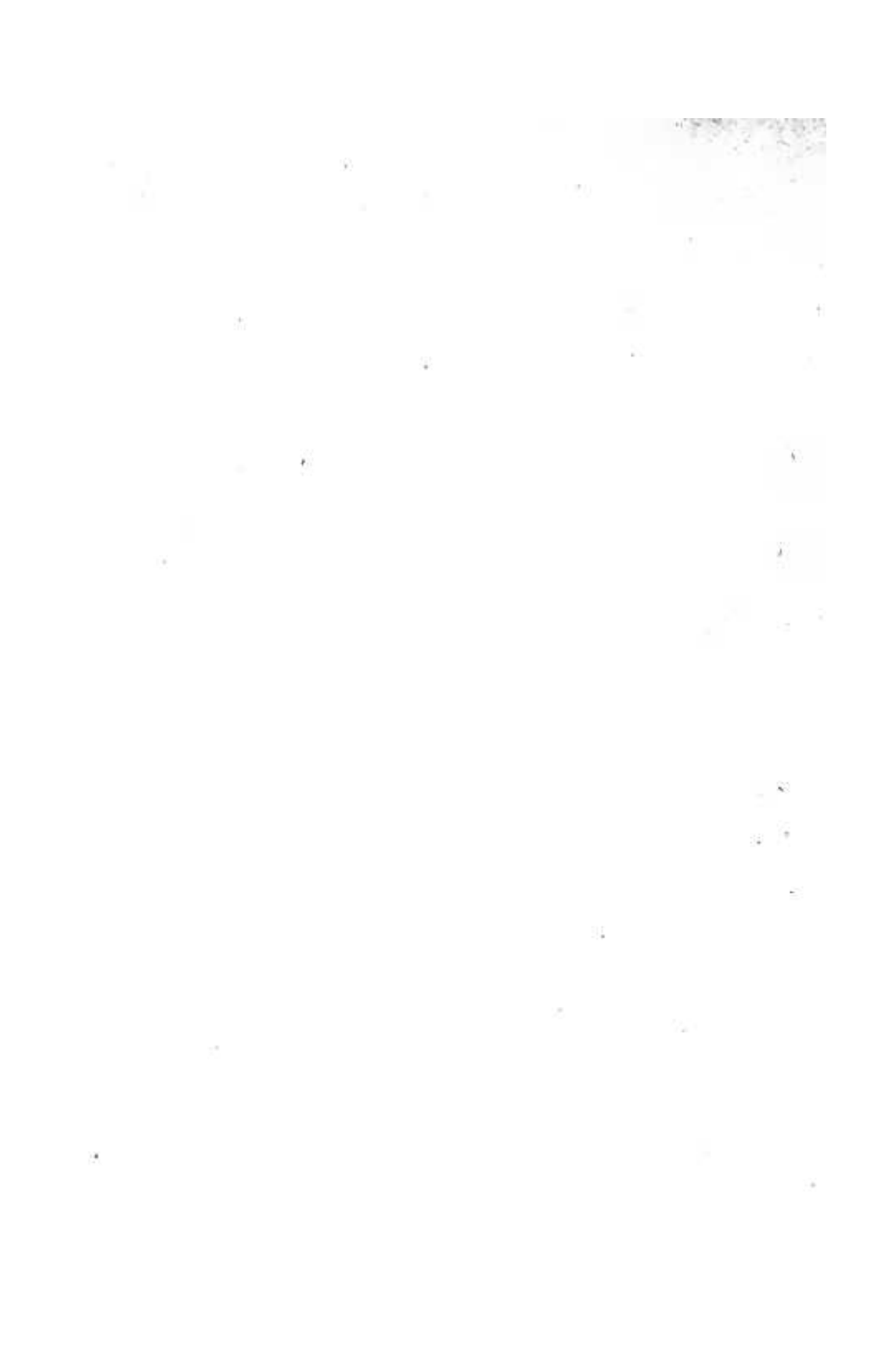
**BY**

**JAMES UNDERHILL**

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## PREFACE TO THE THIRD EDITION

In this edition several additions have been made, especially in the treatment of the direct solar observation. The specimen field notes, to illustrate the requirements of the office of the United States Surveyor General for Colorado, have been entirely rewritten, a different group of claims being used, and represent the practice at the present time. Thanks are due Mr. F. E. France of the office of the United States Surveyor General for valuable help and suggestions in making up the notes.





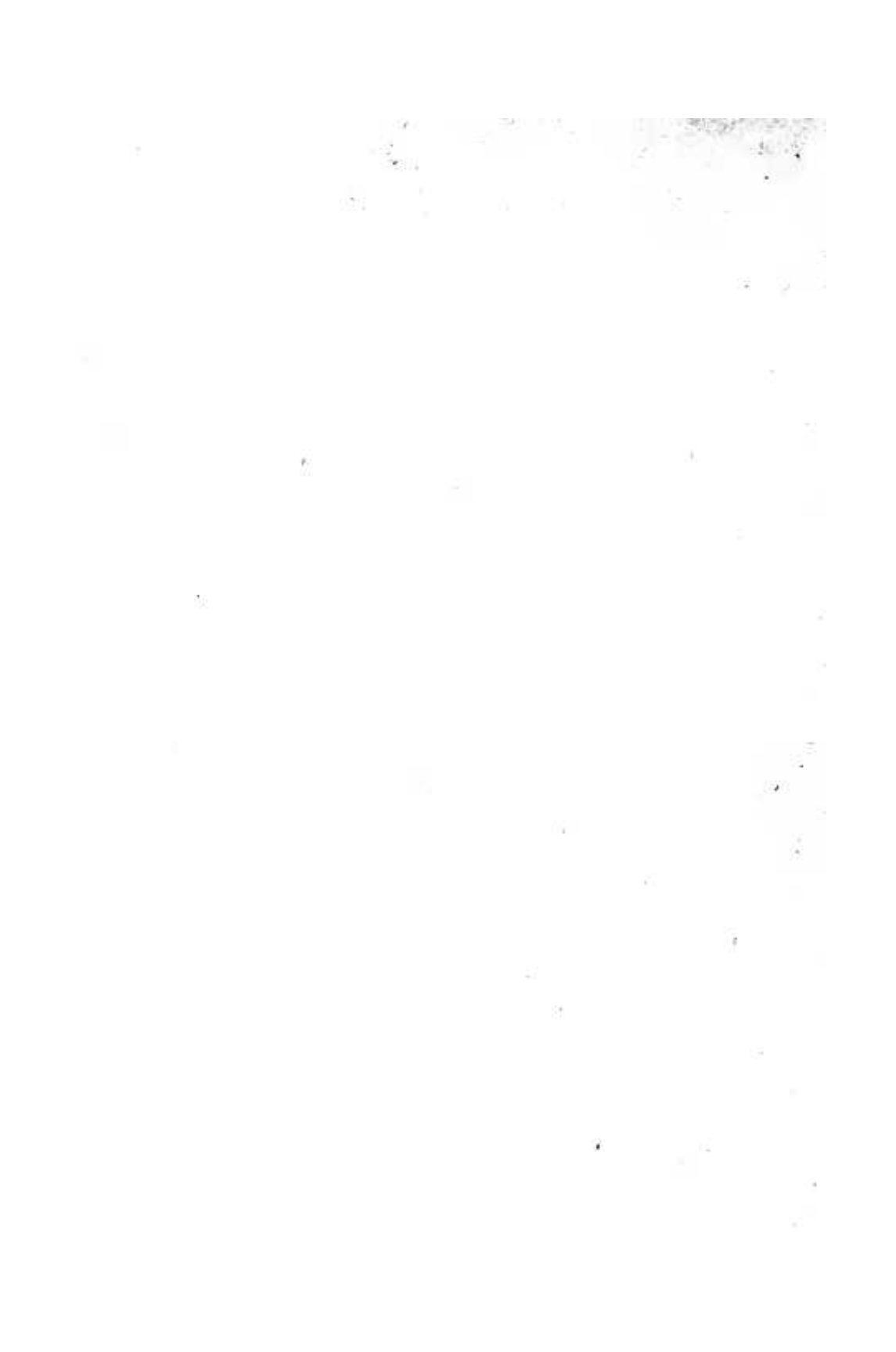
## PREFACE TO FIRST EDITION

In the work which follows an attempt has been made to describe the methods used at the present time in the survey of mineral lands in the western portion of the United States. Only as much of general surveying has been given as is necessary to a clear understanding of the subject, and the reader is referred to the various text books on surveying for all information of a general nature. The reader is also referred to Morrison's "Mining Rights" for the treatment of the purely legal points.

It will be impossible to give credit to all those who have assisted the writer, either during the period when the work was appearing as a serial in *Mining Reporter*, or in its final incorporation in book form. To all those who have assisted, the writer wishes to express his heartfelt thanks, and especially to Professors L. E. Young, E. M., and A. J. Hoskin, Mech. E. of the Colorado School of Mines; Professor Mark Ehle, E. M., of the South Dakota School of Mines; N. H. Brown, E. M., U. S. Mineral Surveyor, formerly Chief of the Mineral Division, and M. E. Blake, the present Chief of the Mineral Division, Office U. S. Surveyor General for Colorado. The writer is also indebted to H. G. Moulton, E. M., and P. P. Barbour, E. M., U. S. Mineral Surveyors, for many valuable suggestions, and to William Hyland for assistance in the calculations.

Thanks are due Wm. Ainsworth & Sons, and W. & L. E. Gurley for permission to use cuts and descriptive matter concerning the Shattuck and Burt Solars.

The writer, in conclusion, cannot acknowledge too strongly the assistance of his wife, which has been invaluable to him.



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